

DISTRIBUTION PAGE

288.8

T68

CSP

MARCH, 1948



I'LL SAVE YOU HALF... Moving, Lifting and Stacking Your Materials!



**ALL YOU DO IS
PRESS THE BUTTON!**

MUSCLE MIKE

Makes Tons *Feather-Light*
with TRANS-TRIPLETS'
Feather-Touch Operation



PLATFORM TRANSPORTER—Lifts and moves 2,000, 4,000 and 6,000 pound loads with feather-touch of thumb on buttons. Pallet and platform models. With ATCO Electric Lift or DUAL-LIFT Foot Pump.



TRANSTACKER—Combines all features of Transporter, with a high-lift feature for stacking of 2,000 to 5,000 pound loads in seconds. Light in weight for limited floor and elevator capacities.



TRANSTRACTOR—will push or pull 6,000 pounds all day long . . . or up to 20,000 pounds intermittently, depending on type of load. Transporter power unit and finger-tip button control.

Yes . . . all you have to do is PRESS THE BUTTON . . . and presto, Automatic's TRANS-TRIPLETS you see pictured here, move, lift, tow . . . and even stack your material with amazing touch-of-thumb ease. Tons of raw material or finished product are made FEATHER-LIGHT . . . are moved efficiently into, around, and out of your plant with FEATHER-TOUCH operation!

A miracle of scientific engineering puts Muscle Mike, the mighty midget in TRANS-TRIPLETS' electric power units, to work for you. Labor's load is lightened, workers are released for more productive work, and management's load is lightened too.

For it is a matter of record, that Automatic's Transporters, Transtackers and Transtractors . . . alone, or in combination . . . have cut handling costs as much as 60% in all kinds of industries.

One plant, with a single Transporter, cut handling costs \$24,480.00 in one year. Workers gained a bonus of freedom from gruelling, back-breaking manual handling, production was accelerated, orders filled faster, customers got quicker service.

Investigate how you can put these industry-tested wonders of electric moving and lifting power to work for you. They pay for themselves in a surprisingly short time, give you permanent relief from the high overhead of manual material handling. Mail the coupon for complete facts.



Mail Coupon!

FOR FREE SHOWING
"THE TRANSPORTER
NEWS REEL"

*Starring the Trans-triplets
Narrated by Muscle Mike*

AUTOMATIC TRANSPORTATION COMPANY

DIV. OF THE YALE & TOWNE MFG. CO.

115 West 87th Street, Dept. C-8, Chicago 20, Ill.

Send me complete facts on how I can cut my material handling costs with Automatic's TRANS-TRIPLETS line of motorized hand trucks.

() Transporter () Transtacker () Transtractor
() Have an ATCO Specialist make a free survey of my material handling costs.

() Schedule me for showing of "Transporter Newsreel"

Company Name.....

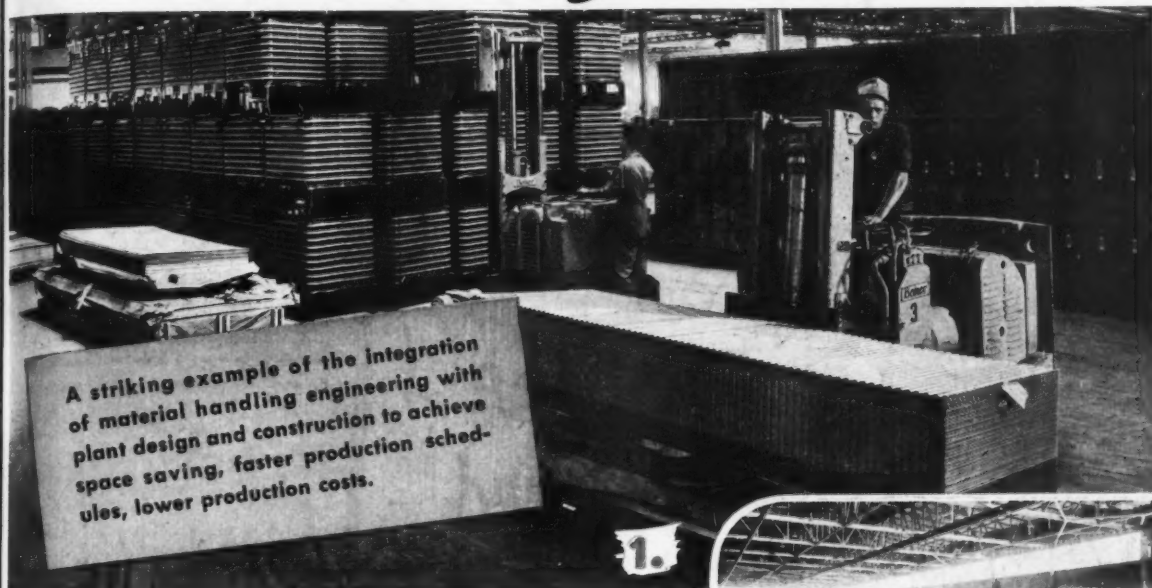
By.....Position.....

Street Address.....

City.....Zone.....State.....

MANUFACTURERS OF THE FAMOUS TRANSPORTERS, TRANSTACKERS AND SKYLIFT ELECTRIC TRUCKS

BAKER TRUCKS *play an essential role* *at the World's Largest Trailer Plant*



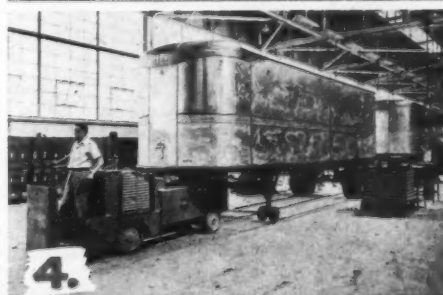
● At the mammoth new plant of The Fruehauf Trailer Company, Avon Lake, Ohio, a fleet of 15 Baker Trucks, together with miles of mechanical conveyors and other handling equipment, helps to achieve new trailer production records.

The plant contains 880,000 sq. ft. of floor space. A half-mile long assembly line on one side parallels inside receiving platforms at trailer or rail car door level, on the opposite side. Space between is devoted to sub assembly, production storage, etc. Baker Fork Trucks unload materials and prefabricated parts and transport them—on pallets whenever possible—to production storage—where they are tied to conserve floor space. From this point, most of them are carried to assembly line by overhead conveyors. Baker Hy-Lift Trucks and a Baker Tractor assist in inter-department handling. (See illustrations 1 and 2.)

Six Baker Tractors, specially designed for Fruehauf with built-in elevating trailer coupler, pull partially built trailers between units of assembly line and take finished trailers from end of line. (See 3 and 4.) They also take trailers from line to modification departments, and return them to the line. Because of their maneuverability, these trucks can operate in extremely small areas thus vitally affecting the original plant design.

If you are considering a new plant or a new assembly line, it will pay you to incorporate modern handling methods in your plans. A Baker Material Handling Engineer will help you.

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Company
2176 West 25th Street • Cleveland, Ohio
In Canada: Railway & Power Engineering Corporation, Limited



Baker INDUSTRIAL TRUCKS

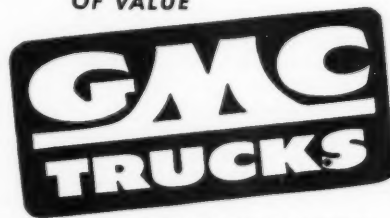


No wonder these men are smiling . . . they're enjoying their first trip in one of the new GMCs . . . *Just What the Driver Ordered* in restful riding and easier driving.

They stretch out in all-steel cabs that are longer and wider. They relax in an adjustable seat with thick padding and nearly twice the number of prewar springs. They can see better in every direction, thanks to larger windshield and windows. They are refreshed by a revolutionary new circulating fresh air ventilation system.

From rugged radiator grille to heavy truck-built rear axles . . . cab, engine and chassis . . . new light-medium duty GMCs are packed full of extra value features.

THE TRUCK
OF VALUE



GASOLINE • DIESEL

GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION



*Help America Produce
for Peace . . . Turn In
Your Old Scrap
Iron and Steel*



New cabs have added head and leg room, 22 per cent more visibility, wide three passenger seats with 73 individually wrapped springs.



There's a unique built-in ventilation system that permits all-weather fresh air circulation . . . provides for fresh air heating if desired.

THIS MONTH'S COVER

Traveling few or thousands of miles to reach the cargo sling, the American-made products represented by each of the packages shown in our photograph must pass through each, and all, of eight basic phases of distribution. Integration and coordination of basic distributive activities can and will reduce the overall cost of distribution and, while maintaining high living standards at home, bring peace and plenty to the peoples of the world.

Photo by Ewing Galloway



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Owned and Published by
CHILTON COMPANY
(Incorporated)



Executive Offices: Chestnut & 56th Sts., Philadelphia 39, Pa.

Editorial & Advertising Offices: 100 East 42nd St., New York 17, N. Y. Telephone, MUrray Hill 6-8600.

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Subscription Rates: U.S., \$5.00 per year; Canada, \$5.50 per year; Foreign Countries, \$6.00 per year. Single Copies, 50c each.

Acceptance under the Act of June 5, 1934 at Harrisburg, Pennsylvania, authorized May 28, 1946

VOL. 47, NO. 3

March, 1948

Special Features

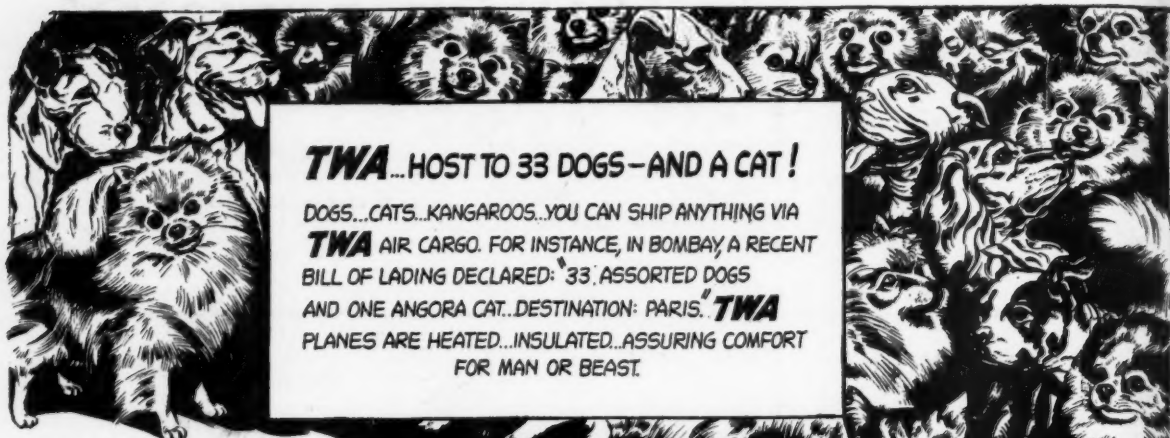
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STATEMENT OF POLICY . . . Our policy is based on the premise that distribution embraces all activities incident to the movement of goods in commerce. If distribution is to be made more efficient and economical, we believe business management must consider more than sales, because more than sales are involved. Marketing, while vital, is one phase only of distribution; seven other practical activities not only are necessary but condition marketing costs. Most commodities require handling, packing, transportation, warehousing, financing, insurance, and service and maintenance of one kind or another before, during or after marketing. We regard all of those activities as essential parts of distribution. Hence, the policy of DISTRIBUTION AGE is to give its readers sound ideas and factual information on methods and practices that will help them to improve and simplify their operations and to standardize and reduce their costs in all phases of distribution.

ALONG THE WAY...OF TWA

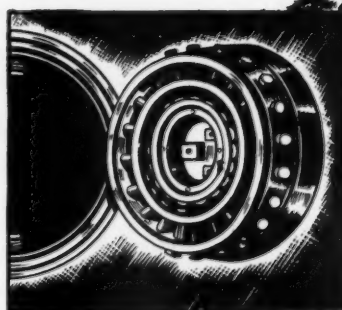


TWA...HOST TO 33 DOGS—AND A CAT!

DOGS...CATS...KANGAROOS...YOU CAN SHIP ANYTHING VIA **TWA** AIR CARGO. FOR INSTANCE, IN BOMBAY, A RECENT BILL OF LADING DECLARED: "33 ASSORTED DOGS AND ONE ANGORA CAT...DESTINATION: PARIS." **TWA** PLANES ARE HEATED...INSULATED...ASSURING COMFORT FOR MAN OR BEAST.

ANSWER MAN

WHENEVER THE SHIPMENT COULD, SHOULD OR **MUST** GO BY AIR...GET IN TOUCH WITH THE **TWA** AIR CARGO MAN IN YOUR LOCALITY. HE'LL ANSWER YOUR QUESTIONS...PRONTO. GOOD MAN TO KNOW.



VAULTS THROUGH THE AIR

TWA INTERNATIONAL ALL-CARGO FLIGHTS OFFER ADDED PROTECTION OF A "STRONG BOX" TO GUARD VALUABLES EN ROUTE. VAULT HOLDS A TON...PERMITS HAND-TO-HAND RECEIPT/DELIVERY OF SHIPMENTS.

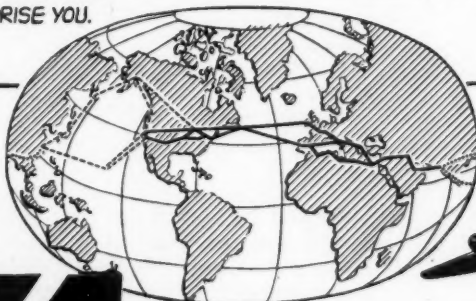


HOW TO FIND HIM

LOOK IN THE LOCAL PHONE BOOK UNDER **TWA** (TRANS WORLD AIRLINE). CALL. ASK FOR AIR CARGO MANAGER. LOW RATES WILL SURPRISE YOU.

MAKES A MIDGET OF THE MAP

Air Cargo routes shrink the globe. On the "road to Rome" via TWA... shipments arrive in less than a day!



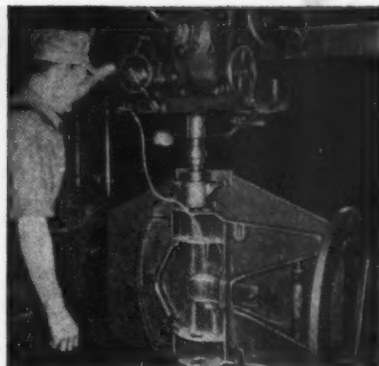
TWA

TRANS WORLD AIRLINE

U.S.A. • EUROPE • AFRICA • ASIA

SHIP WHEREVER YOU SAY... via TWA

TWA Air Cargo routes permit shipments direct to Europe, Africa, Asia... without off-line handling. Help solve shipping problems. Call the TWA office today, or—if you are shipping overseas—any international freight forwarder can also give you complete information.



Highway's New 5TH Wheel... the greatest ever developed

HIGHWAY has always been the leader in 5th wheel development. Most of the 5th wheels in use today are produced under Highway's basic patents of 1919. So it is natural that Highway should again pioneer—with the great new torsional rubber mounted Highway Duo-Lock 5th Wheel.

This new Highway 5th Wheel is 145 lbs. lighter, has 23 fewer parts, has 9 fewer moving parts. It is made from cast steel and weighs only 320 lbs., including the 60-lb. mounting channel. Yet it is full 36" wide and has greater strength throughout, and greater bearing area.

Most sensational of many advantages, however, is the fact that the Highway Duo-Lock 5th Wheel's rubber bearings eliminate tendency to telegraph noise and resiliently resist and absorb shock instead of transmitting both to the cab. Drivers are far more comfortable, suffer less fatigue. This rubber bearing never needs lubrication. Action of the rubber forces the 5th Wheel always to tilt rearwardly when uncoupled.

Write for complete details of the new Highway Duo-Lock 5th Wheel, and learn the many reasons why it will pay you to use it.

HIGHWAY TRAILER COMPANY

General Offices, Edgerton, Wisconsin • Parts Depots: Edgerton and Chicago

Factories at: Edgerton and Stoughton, Wisconsin

Commercial Truck Trailers • Earth Boring Machines

Winches and other Public Utility Equipment



HIGHWAY AMERICA'S QUALITY TRAILERS



Perfect Combination for
**LOWER COST
PER MILE!**



Your U. S. Distributor is an expert in tire care. And he's an expert in fitting tires to the job. He'll make sure your trucks are equipped with the right tire and the right size for your particular operation.

Through his U. S. Fleet Service program, he can provide you with preventive maintenance that means plus mileage. For instance, he'll inspect your trucks regularly, replace worn out tires and tubes *before* they cause expensive delays, and recap and repair in time. He'll recommend changes in inflation, loads and speeds for more economical operation.

When you add this kind of service to tough, long-wearing U. S. Royal Fleetways, you've got the perfect combination for *lower cost per mile!*

*Call your U.S. Distributor TODAY for
free inspection of your tires. He's listed
in your Classified Telephone Directory.*

**U.S.
ROYAL
TIRES**

UNITED STATES RUBBER COMPANY *Serving Through Science*

DISTRIBUTION AGE

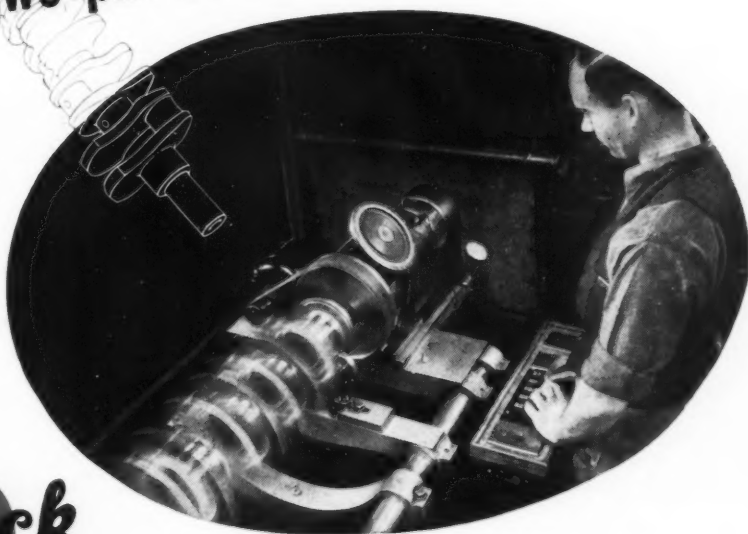
you get more work out of Mack Trucks



Work done on the job is the one true yardstick of truck value. Figured that way, every Mack truck gives full measure — and more — in extra work, enduring reliability and rock-bottom maintenance costs. This hard-working Mack serves Southern Pacific Transport Co., subsidiary of the Southern Pacific Railway.

because...we put more work into Macks

True Dynamic Crankshaft Balance assures smooth running and prolonged bearing life. This highly sensitive balancing machine determines exact adjustments needed in the counterweights for perfect running balance. A calibrated drilling machine then removes metal from the weights as electrically indicated and the final result is again checked.



Mack

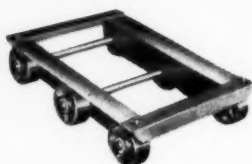
Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada, Mack Trucks of Canada, Ltd.

Trucks for

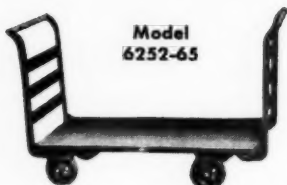
Every Purpose

SINCE 1900, AMERICA'S HARDEST-WORKING TRUCK

Model
6656



Model
6252-65



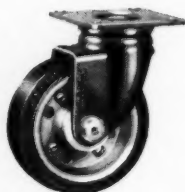
Model
6024-15



Model
6062



Model
6074-65



Model
3-527-65



Model
6431

Model
6030-94



Cut Costs with **COLSON**

For savings in time, money and effort use COLSON trucks to solve your distribution and products-handling problems.

Colson trucks and casters are engineered products, designed for long service and low maintenance costs.

When you have materials-handling or distribution problems, consult with COLSON for detailed information on our complete line of quality products.



THE COLSON CORPORATION

ELYRIA, OHIO

CASTERS • INDUSTRIAL TRUCKS AND PLATFORMS • LIFT JACK SYSTEMS • BICYCLES • CHILDREN'S VEHICLES
WHEEL CHAIRS • WHEEL STRETCHERS • INHALATORS • TRAY TRUCKS • DISH TRUCKS • INSTRUMENT TABLES

you can SAVE DOLLARS and DAYS with DELTA AIR FREIGHT ... to and through the South

fast, frequent flights—Delta flies cargo in DC-4 and DC-3 passenger planes on all schedules. Plus two special all-cargo planes nightly between Chicago-Cincinnati-Atlanta and between Fort Worth-Dallas-Jackson-Birmingham-Atlanta.

Every 2½ minutes night and day, a plane lands or takes off along the Delta system. There's no delay in getting goods underway.

pick-up and delivery—Fast trucks from your door to airport, from airport to final destination. This Delta service is optional. Charges are low, only 35 cents per 100 lbs. (or minimum charge 75 cents per shipment) at all Delta points for either pick-up or delivery.



large or small—Air Freight rates start at 25 lbs. Maximum per plane (DC-4's) is 7,000 lbs.



Flying Freighters can handle pieces up to 4½ x 4½ x 8 feet, also live stock. All-cargo flights are timed for special convenience of shippers.

connections—Delta flights connect with 10 domestic airlines at key points such as Chicago, Cincinnati, Knoxville, Atlanta and Dallas, with 9 international lines at Miami and New Orleans and Dallas. You can ship from any point TO and THRU the South via Delta.



what's economical to ship? Delta rates have come down, while surface rates have gone up. With costs via air below or about equal to first class surface rates, it's economical to ship any product by air that does not ordinarily move by rail freight or in bulk in trucks.



reduced fruit rates—Northbound shipments of fresh fruit and vegetables from 11 Delta cities now fly at a 40 per cent discount, with rates as low as 12½ cents a ton-mile. Reach markets at peak prices, with mature products only a few hours from field to store. Save on icing and spoilage.



study these rates—Here are typical airport-to-airport rates, with flight times. Compare these rates with what you are now paying. Then compare the savings in time, inventories, production; the quick sales you gain and extended markets. Note that where costs are equal, you get a bonus via Delta or two to ten days faster delivery.

Per 100 lbs. Flying Time

Chicago-Cincinnati . . .	\$3.07	1:19 Hours
Chicago-Atlanta . . .	6.55	3:29 Hours
Dallas-New Orleans . . .	5.05	2:14 Hours
Dallas-Atlanta	8.00	4:25 Hours
Cincinnati-Atlanta . . .	4.55	1:55 Hours
Cincinnati-Chattanooga	3.55	1:45 Hours
Knoxville-Miami . . .	8.50	4:40 Hours
Knoxville-Jacksonville	5.05	2:38 Hours

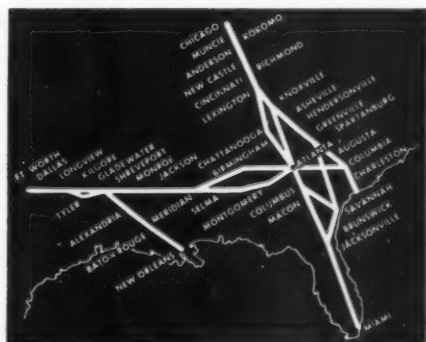


one phone call to any Delta office will bring you point-to-point air rates, with direct comparisons of ground costs to the same cities. Let Delta aid you with shipping problems, in finding ways to cut costs, speed deliveries and increase sales. From off-line points, write Air Freight Department, Delta Air Lines, Atlanta, Georgia.



General Offices

Atlanta, Georgia



ROBERT GAIR ANNOUNCEMENT

About April 1, 1948, our new Kraft Liner Board Mill will come into production at Port Wentworth, Ga. This high speed modern Mill will supply the tonnage of Liner Board for fabrication into Corrugated Shipping Containers by the Nine Gair Box Plants located at

N. TONAWANDA, N. Y.

PORTLAND, CONN.

SYRACUSE, N. Y.

CAMBRIDGE, MASS.

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HOLYOKE, MASS.

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ROBERT GAIR COMPANY, INC.

NEW YORK • TORONTO



FOLDING CARTONS • SHIPPING CONTAINERS • PAPERBOARD



Know Your E-P Man

WHO HE IS—One of the materials handling engineers from the nearest of Elwell-Parker's 34 field headquarters—a specialist with many years' experience in industrial truck systems.

WHAT'S BEHIND HIM—Elwell-Parker's *longer and more varied* experience gained by 42 years' service to more than 300 branches of industry.

WHAT HE CAN DO FOR YOU—1. Analyze *your* materials handling problem—that is, *your* loads in relation to *your* plant and production system. 2. Suggest the correct basic containers for your products, and their proper handling in master unit loads. 3. Recommend an integrated system of Elwell-Parker Trucks, Tractors and Cranes selected from the 47 E-P models, and then have them "tailored" to *your* specific requirements.

To profit by his successful experience, *have us send him so you can start your planning now.* The Elwell-Parker Electric Co., 4110 St. Clair Avenue, Cleveland 14, Ohio.



SCIENTIFIC MATERIALS HANDLING
fully explained in free booklet—ask for "Industrial Logistics".

ELWELL-PARKER POWER INDUSTRIAL TRUCKS

Established 1893



675 POUNDS OF CASTER!

...TO HELP MANEUVER
THE WORLD'S BIGGEST
BOMBER

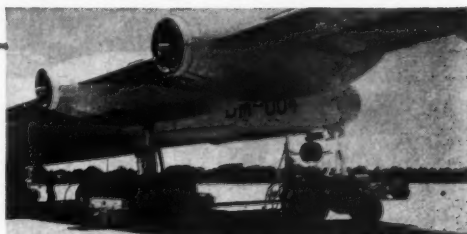
Another "Unusual Application" by BASSICK

Putting 278,000 pounds of bomber on casters solved the problem of maneuvering Consolidated Vultee's XB-36 during construction and around hangars.

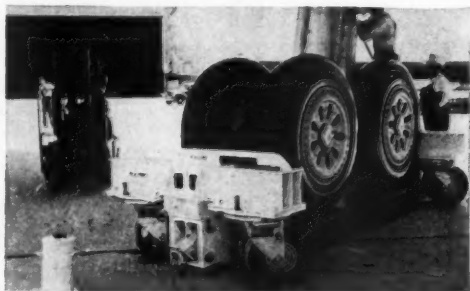
Bassick built the world's largest casters for this job . . . each with twin steel wheels 18" in diameter and with a 6" tread. Both wheels share the work equally . . . efficiently . . . because Bassick's famous "FLOATING HUB" wheel suspension distributes the load evenly . . . absorbs shocks . . . lets the caster roll smoothly, easily, even on an irregular surface.

Every day, casters are demonstrating their versatility in new and unusual ways . . . because Bassick, the world's largest caster manufacturer, is in the business of *making casters do more*.

For further information, or engineering help with special applications, write: **THE BASSICK COMPANY**, Bridgeport 2, Conn. Division of Stewart-Warner Corporation. *Canadian Division:* Stewart-Warner-Alemite Corporation, Ltd., Belleville, Ontario.



The Army's Consolidated-Vultee XB-36 is the world's mightiest flying weapon. Bomb capacity, 36 tons.



Bassick Casters form a "wheeled shoe" for the landing gear . . . permit movement in any direction.

Making more kinds
of Casters...
Making Casters
do more

Bassick



Industry is on the Move Westward

UNION PACIFIC RAILROAD COMPANY
OMAHA 2, NEBRASKA

G. F. ASHBY,
PRESIDENT

To American Industry:

The Union Pacific West offers industry proximity to products of ranch, mine and forest...ample power, fuel, water...healthful living conditions in scenic, recreational regions...and native-born, high-type labor.

Our faith in the future of this vast territory is confirmed by our current 200-million-dollar investment program for new equipment, improved and expanded facilities to provide shippers and travelers with the utmost in rail transportation.

We are at your service.

Yours very truly,

President,
Union Pacific Railroad



George F. Ashby

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners

HOW MANY HANDS Has a Traffic Manager?



This is the six-handed god worshipped by the Hindus. They believe he needs a hand for each of the special attributes with which they have endowed him.

MANY a Traffic Manager has felt the need of extra hands to take care of the hundreds of important details connected with his job.

One of the "hands" to help busy Traffic Managers is the new UNITED VAN LINES. Because the new UNITED specializes in taking all the details of personnel moving off your hands.

Whenever you have to move personnel, turn confidently to UNITED... for prompt, dependable, economical Long-Distance Moving Service to and from any point in America.

Consult your Classified Telephone Directory for the nearest UNITED agent... and call on him for that "extra hand"!



United VAN LINES, INC.



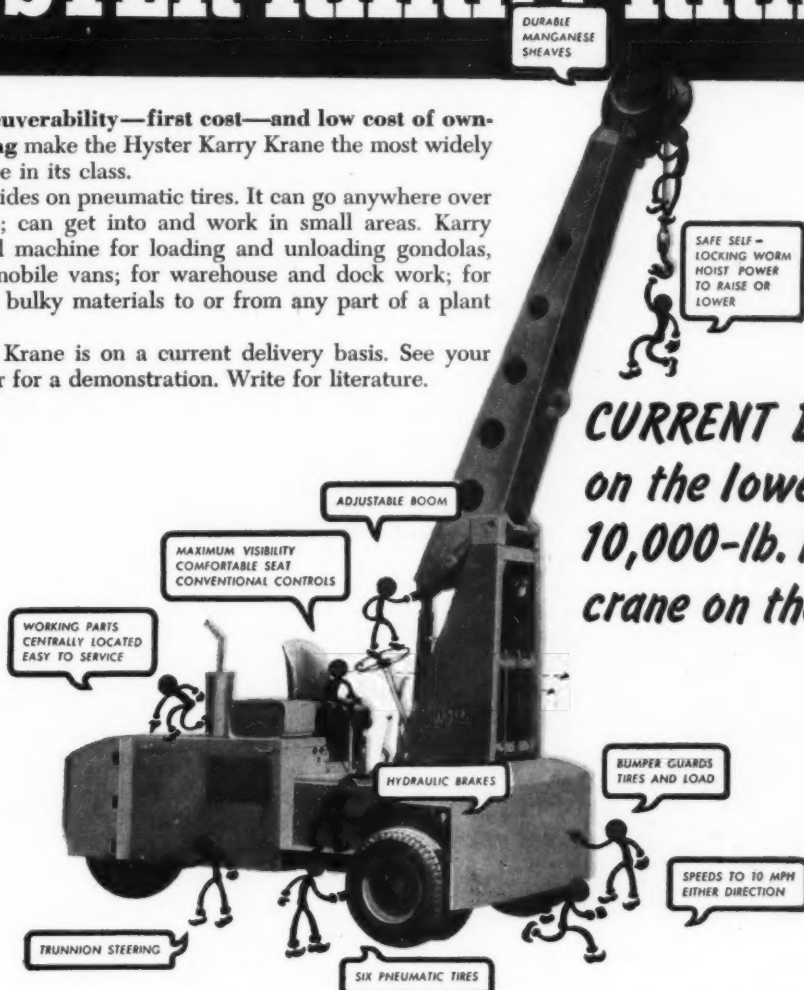
HEADQUARTERS: ST. LOUIS 12, MO. ★ AGENTS IN PRINCIPAL CITIES OF THE UNITED STATES

HYSTER KARRY KRANE

Mobility—Maneuverability—first cost—and low cost of owning and operating make the Hyster Karry Krane the most widely used mobile crane in its class.

Karry Krane rides on pneumatic tires. It can go anywhere over any road surface; can get into and work in small areas. Karry Krane is an ideal machine for loading and unloading gondolas, flat cars or automobile vans; for warehouse and dock work; for moving heavy or bulky materials to or from any part of a plant or storage yard.

Hyster Karry Krane is on a current delivery basis. See your Hyster distributor for a demonstration. Write for literature.



CURRENT DELIVERY
on the lowest price
10,000-lb. mobile
crane on the market

SOLD AND SERVICED BY THESE HYSTER DISTRIBUTORS

ALASKA—Northern Commercial Co.
BROOKLYN, N. Y.—A. S. Rampell
BUFFALO, N. Y.

Rapids Handling Equipment Co.
of Buffalo, Inc.

CALGARY, ALTA.

A. R. Williams Machy. Western, Ltd.

CHICAGO, ILL.—Hyster Company

CINCINNATI, O.—Oral T. Carter & Associates

CLEVELAND, O.—Marrison Company

DALLAS, TEX.—C. H. Collier Company

DENVER, COLO.—Paul Fitzgerald

DETROIT, MICH.—Bentley & Hyde

GRAND RAPIDS, MICH.—Bentley & Hyde

HALIFAX, NOVA SCOTIA

A. R. Williams Machy. Co. Ltd.

HONOLULU, T. H.—Electric Steel Foundry Co.

HOUSTON, TEXAS—C. H. Collier Company

INDIANAPOLIS, IND.

Central Rubber & Supply Co.

JACKSONVILLE, FLA.—L. S. Teague Eqpt. Co.

KANSAS CITY, MO.

Industrial Power Equipment Co.

LOS ANGELES, CALIF.—Hyster Company

LOUISVILLE, KY.—Embry Brothers, Inc.

MEMPHIS—Hyster Co. of Louisiana, Inc.

MILWAUKEE, WIS.—Hyster Company

MINNEAPOLIS, MINN.—W. S. Nott Company

MOBILE, ALA.—S & T Equipment Co., Inc.

MONTREAL, P. Q.

A. R. Williams Machy. Co., Ltd.

NEW ORLEANS, LA.

Hyster Company of Louisiana, Inc.

NEW ROCHELLE, N. Y.

Eastern Industrial Sales Co.

OTTAWA, ONT.

A. R. Williams Machy. Co., Ltd.

PHILADELPHIA, PA.

Rapids Handling Equip. Co. of Phila., Inc.

PHOENIX, ARIZ.—Equipment Sales Company

PITTSBURGH, PA.—Equipco Sales Company

PORTLAND, ORE.—Hyster Sales Company

ST. JOHNS, N. F.—City Service Company, Ltd.

ST. LOUIS, MO.—Wharton L. Peters

SALT LAKE CITY, UTAH

Arnold Machinery Company

SAN FRANCISCO, CALIF.—Hyster Company

SEATTLE, WASH.—Hyster Company

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In addition to above, Hyster Export Dealers are located in 30 foreign countries.

FRUEHAUF *All-Steel* TRUCK BODIES ARE "PRECISION-BUILT"



EASY TO ASSEMBLE • IN HUNDREDS OF COMBINATIONS • EASY TO REPLACE ANY UNIT • AND HERE'S THE PICTURE STORY OF WHY YOU GET CUSTOM-BUILT QUALITY AT PRODUCTION-LINE PRICES!



BASE JIG—This view in the Kansas City Fruehauf Body Plant shows base-frame assembly being hand welded. All units are held in perfect alignment by special jigs and fixtures while this operation is being completed.



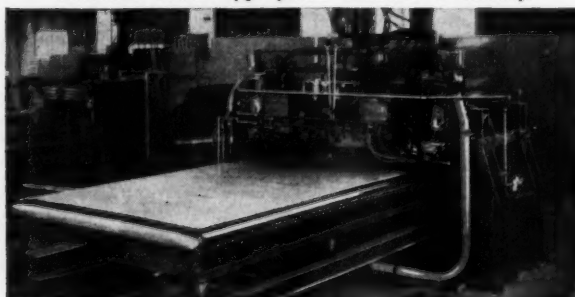
FLOORING LINE—Hardwood flooring is bolted along its length to steel hat-sections which are welded to cross-members for extra durability. All wood is chemically treated in tank—pictured in rear.



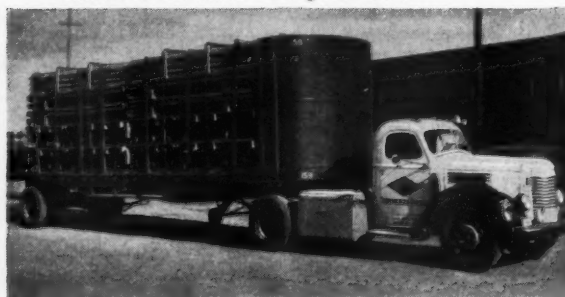
SIDE FRAMING—Here again jigs and fixtures assure precision-built side walls. Equipment like this speeds production and insures perfect-fitting units, all built to close tolerances. Tumbler jigs permit maximum accessibility.



AUTOMATIC WELDER—Operates entirely automatically. Photo shows molding retainer and panels being welded to side frame. Operations are thus uniform and hand work reduced to a minimum—a big time-saver.



SEAM WELDER—Automatic in its operation. Roof panels are electrically welded to the frame. This machine runs one seam across one end, then down the sides. All units are prime painted. The roof, of course, is rust-proof galvanized steel.



SHIPPED KNOCKED DOWN—Trailer delivery lowers Truck Body shipping costs and provides direct Factory-to-Branch delivery. You can assemble these units or have your nearest Branch do it for you in a few hours.

Write for Free Folder "Fruehauf Truck Bodies" or See Them at Nearest Fruehauf Branch

FRUEHAUF TRAILER CO., DETROIT 32

TRUCK BODY DIVISION



4 Basic Models • • • Hundreds of Combinations!

FRUEHAUF

TRUCK BODIES

DISTRIBUTION AGENTS



Motaircargo

THE OTHER day we were crossing 42nd Street, New York's central and teeming thoroughfare, in the company of Harry Webster, publisher of DISTRIBUTION AGE, when a huge motor vehicle—one of those ubiquitous truck-trailer combinations—catapulted itself from a side street and sent us scurrying back to the safety of the sidewalk.

"Well, how do you like that!" said Harry, indicating the rapidly vanishing menace. "We were nearly 'clipped' by one of my portfolio words on wheels!"

True enough. On the side of the motor carrier and easily discernible in foot-high letters was the word, "Motaircargo." Now a common sight along our thoroughfares and highways, this composite word was coined by Harry Webster back in the early days of aircargo because it so aptly described a needed, but then non-existent, service. It had its genesis in the realization that if aircargo ever was to realize its fullest potential, there must be integration and coordination of ground and air services . . . and what could more appropriately describe and symbolize this need than the integration of the words motor and aircargo. It was another facet of Harry Webster's overall and much publicized concept—which forms, in fact, the basic editorial policy of this publication—that distribution which begins with the movement of raw materials at the point of origin and continues through production until the finished products are in the hands of ultimate consumers consists of a series of related activities which must be integrated at those points where one connects with the other.

Daily there is fresh evidence of the broader coordination between air and highway carriers. Only the other day Ted V. Rodgers, chairman of the board of the American Trucking Assns., told the annual meeting of the Colorado Motor Carriers in Denver that the continued expansion of the aviation industry is of great importance to the growth of the nation's trucking companies and that any opposition to the future development of air freight shipping is not in the best interests of the country.

"The trucking industry is responsible for the distribution of a vast amount of tonnage at both ends of freight flights resulting in two hauls for the truck companies compared with one for the plane company," Rodgers said. "Our industry stands to gain materially if we en-

courage the airlines to haul more freight; their expansion means our expansion."

Such recognition of the importance of motaircargo—coordinated air and motor cargo service—is gratifying to those concerned with the policies of this publication. It is not new, of course, to the readers of DISTRIBUTION AGE. For the past five years, Dr. John H. Frederick, air cargo consultant, has been advocating this very thing time after time. A brief list of his articles dealing with motaircargo, some of which have been widely publicized, follows:

Air Cargo on the Ground, The Pick-Up and Delivery Problem, October, 1942.

Should Motor Carriers Fly Air Cargo?, October, 1943.

Where Does Motaircargo Stand?, October, 1944.

Motaircargo Development and Prospects, October, 1945.

Motaircargo Today, October, 1946.

As has been repeatedly pointed out in these columns by Dr. Frederick and by others, an increase in the volume of aircargo will benefit distribution in several ways. It will improve, as we said back in 1945, all modes of transportation by stimulating competitive and coordinating carriers. It will increase the efficiency of ground handling which, in turn, will improve handling methods in other fields. It will make better packing and packaging necessary. It will encourage improved warehousing operations. It will hasten the development of improved marketing techniques. It may have the effect of amplifying financial arrangements and of standardizing insurance policies because the time element involved in the transfer of many commodities from buyer to seller by air transportation makes faster capital turnover and short term insurance coverage feasible. Better service and maintenance in all of these phases of distribution will be required by the exigencies of new demands.

In short, the development of aircargo is likely to quicken improvements in all aspects of distribution, because the things that will facilitate better air cargo operations are the very things that are needed for more efficient and economical distribution.

D.J. Witherspoon
Editor

DA NEXT MONTH

LETTERS to the Editor

Some of the features scheduled for DISTRIBUTION AGE in April are:

WATER TRANSPORTATION and its vital role in the national and international distribution picture will be discussed by DA correspondents and other leading authorities in the field.

TRUCK COSTS . . . Too many managements do not cost trucks because they think the situation is too complex for solution . . . Fred Merish, DA staff correspondent, points out that adequate truck costing cuts handling expense, and provides a simple, easy-to-use truck costing chart.

BETTER PACKING FOR BETTER SHIPPING . . . E. P. Troeger, process engineer, Douglas Aircraft Co., Inc., a firm that has had a tremendous amount of packing experience, analyzes and outlines an effective approach to good and economical packing. He discusses: evaluation of the properties of the article to be packed, the degree of protection required, the means of transportation to be used, and the probable exposure to handling and weather.

SAFETY IN THE AIR . . . John H. Frederick, DA air cargo consultant, discusses the controversial subject of safety in commercial air transportation today. Mr. Frederick deplores the undue newspaper publicity given air accidents, which he says is out of all proportion to the importance of most mishaps.

PROTECTIVE CUSHIONING IN PACKAGING . . . M. R. Grandon, president, Insul-Flex Co., discusses an important phase of packing and packaging. His article is based on a presentation at the recent First Annual Los Angeles Scientific Packaging and Materials Handling Forum and Exhibition.

A BASIC COMPENSATION PLAN FOR SALESMEN . . . R. M. Coburn, marketing consultant, discusses a fundamental compensation plan for salesmen. The creation of net profits, says Mr. Coburn, is always in the hands of top management, but the sales department is in a unique position to aid the concept.

Materials Handling

Sir:

I wonder when top flight materials handling engineers are going to quit making statements like the one in Mr. Matthew W. Potts' article on "The Need for Materials Handling Departments" in the Sept., 1947 issue of DISTRIBUTION AGE. Here it is:

" . . . men (in) executive positions . . . are so burdened with production thinking that they have lost track of the fact that materials handling, while it aids production, speeds up production and helps to increase production, is not a production operation."

Or the other one which they seem to take such a sadistic delight in repeating:

"Materials handling adds nothing to the value of the article handled."

Materials handling is a production function. If you stop moving stuff from one operation to another, production stops. If a machine breaks down, production stops. Is there any difference? No! To me, each is a necessary part of the process; each adds value. For additional arguments, see my paper—"I Do Not Apologize For Materials Handling"—which I was asked to write for *Manufacturers Record* and which will probably appear in the Feb. issue.

There is so much to be said (and Mr. Potts is saying it) about the advantages and benefits of modern materials handling methods, why say anything at all that will deter their adoption? Leave that for others, who, incidentally, do not even think such things, much less say them.

The trouble is that Mr. Potts' articles carry a lot of weight with the lay public (and with me, too), and he must be careful to say only the things which will help to advance the art.

I just want to add that I look for Mr. Potts' articles in *DISTRIBUTION AGE* and read them for pleasure and profit, and file them for future reference.

—Sidney Reibel, Materials Handling Consultant, Huntington Woods, Mich.

Mr. Pott's reply to Mr. Reibel's letter follows:

I believe that we are of one mind in our approach to the subject of materials handling, but possibly we differ regarding the use of certain terms. This is particularly true in connection with the subject of materials handling, on which the nomenclature is still in the formative stage.

Words used to describe materials handling are rather loosely put together, and the same is true regarding what materials handling can do in connection with production. That is why you disagree with the statement that I made in the article

"The Need of Materials Handling Departments," in which you take exception to the phrase placed in italics in which I say: "Materials handling is not a production operation." I used this phrase to bring out that the executive who is in charge of plant production does not feel that it is a production operation, and the reason he feels it is not a production operation is that it cannot be placed on a simple direct time set-up or efficiency basis, the same as arriving at a production cost in connection with the making of a screw machine part or a molded casting or a plastic mold operation.

Materials handling has many angles, and a lot depends upon the length of the movement, the physical set-up of the plant, etc. Very seldom does the same operation repeat itself in more than one plant, in identical sequence, as would be the case on a Bullard Automatic or a Warner Swasey, in which a definite operation is performed in the same length of time, under identical conditions, whether the plant be located in Vermont, in Illinois or in Texas. That is why I said that materials handling is not a production operation.

However, I hasten to reply to you and to say that materials handling is an important adjunct or part of production. It is necessary to good production. It co-ordinates and ties together various production operations. It is an important part of the production set-up. In fact, the most important part, because as you stated in your letter, if we cannot get the materials to the production machines at the proper rate, then the machine production time is affected.

The same is true regarding materials handling in a bake oven, in a washer or drier. Here the handling becomes a definite part of the production machine, and can then be analyzed and described as a production operation, and it will repeat itself, whether the washer is located in Vermont, in New York, or in Pennsylvania, because we have a definite time cycle, a definite loading and unloading, and definite handling of materials under like condition. Then materials handling is definitely a production operation.

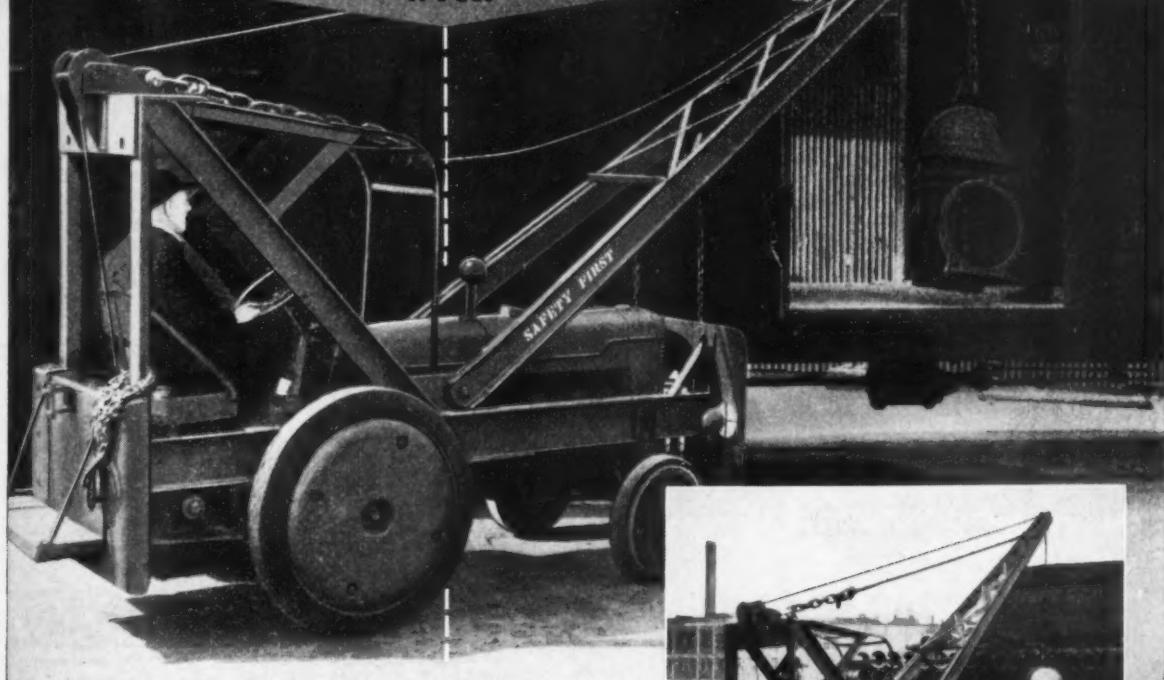
You are taking exception to the phrase "materials handling adds nothing to the value of the article handled." This phrase is used over and over again by writers, speakers, and even in material handling manufacturers' advertisements. It is a repetition of the same idea which we hear on the radio time and time again, such as Old Gold's statement: "Not a cough in a carload," or Lucky Strike's "L.S.M.F.T.". It becomes a drone—nevertheless it impresses itself upon the minds of the hearer to the point where they do not forget it, and I think that is the reason why this phrase in connection with materials handling has been used so extensively in the past few years. It is to impress the execu-

(Continued on Page 75)

Milwaukee Dept. of Public Works

Solves Materials Handling

with



INTERNATIONAL Industrial Wheel Tractors



Two International I-4 Tractors do the heavy lifting and materials handling around the Municipal Service Building in Milwaukee. One is shown in these views unloading and stockpiling a 16-in. gate valve weighing 1300 lbs. and a 12-ft. length of 24-in. pipe weighing 2400 lbs.

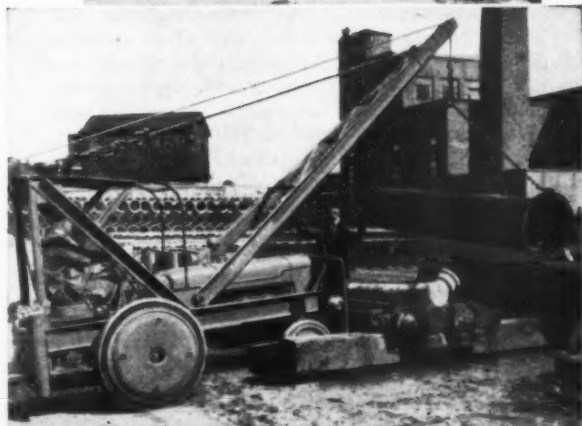
The crane-equipped tractors stockpiled everything in this water department yard. The department liked them because "they are faster and easier to handle than the cranes used before."

Consult your International Industrial Power Distributor about these and other International tractors. Let him help you select the models required for your jobs.

Industrial Power Division

INTERNATIONAL HARVESTER COMPANY

180 North Michigan Ave., Chicago 1, Illinois



INTERNATIONAL POWER

CRAWLER AND WHEEL TRACTORS • DIESEL ENGINES • POWER UNITS

MARCH, 1948

19

See what NAILABLE STEEL FLOORING means to *Shippers*



If you ship goods in boxcars, gondolas or flatcars you'll want to know what NAILABLE STEEL FLOORING can do for shippers. Check these points that show how it can increase your car supply, cut damage to goods in transit and simplify freight handling.

INCREASED CAR AVAILABILITY

In gondolas, NAILABLE STEEL FLOORING makes an all-purpose car suitable for *any* type of freight—finished goods, rough heavy materials, fine bulk freight. It does the job of *both* wood-floor cars and conventional steel-plate-floor gondolas. Empty car switching and assembling to provide equipment for the particular lading is drastically reduced. In boxcars, too, NAILABLE STEEL FLOORING cuts car suitability problems. Unlike present flooring, it's built to *stay* in good condition for all types of freight for the life of the car. If it's a NAILABLE STEEL FLOOR you *know* it will handle the freight.

MORE PROTECTION TO LADING

With up to 400% greater nail-holding force than wood, NAILABLE STEEL FLOORING assures more

BULKHEAD BLOCKING BEING PLACED ON NAILABLE STEEL FLOORING. The channels are spaced to provide greater nail-holding force than that of wood—yet nails can be readily removed without damage to the floor. A self-sealing plastic in the nailing grooves prevents loss of fine freight carried in bulk.



secure blocking, less damage to goods in transit. No splinters or sharp edges can damage freight or injure men working in cars. Spilled liquids aren't absorbed; and can be easily cleaned off to avoid contaminating subsequent freight. When goods are shipped on NAILABLE STEEL FLOORS, there's a better chance they'll reach the consignee just as you sent them.

EASIER FREIGHT HANDLING

No need to worry about fork trucks breaking through NAILABLE STEEL FLOORING; it readily supports the largest trucks used in boxcars. Unloading with shovels, scrapers and clamshell buckets is quicker and easier, because the surface is smooth, flat and free from splinters. The same qualities provide faster and more complete car cleaning, too.

These features of NAILABLE STEEL FLOORING add up to real advantages for shippers as well as carriers. If you haven't yet seen a car equipped with NAILABLE STEEL FLOORING, and would like to, write us, and we'll let you know when there's one in your area.

GREAT LAKES STEEL CORPORATION

Steel Floor Division, Penobscot Bldg., Detroit 26, Mich.

UNIT OF NATIONAL STEEL CORPORATION

PATENTS PENDING

THE MARSHALL PLAN



Harris and Ewing

Tax and other proposed legislation waits on the Marshall Plan which is expected to come before Senate in April . . . Extension of President's War Power Act, which expires in March, is regarded as certain.

By ARNOLD KRUCKMAN

Washington Correspondent

ERP, the alphabetical dislocation which signifies the Presidential verbal idea of the Marshall Plan, probably will not come up for debate formally on the floor of the Senate until well into this month. There is little prospect that Secretary Marshall's Plan will be crystalized sufficiently to warrant the vote by the Senate until very late in April, or some time in May. It is possible even that it may not be put through the final Congressional mold until June. What it may look like and sound like after the Senate gets through with it is anybody's guess, especially if the country at large has developed any sharp ideas about it.

There are many interesting speculations about the Marshall Plan here in the capital. It should be useful to the business community to get a broad idea of Washington's impressions. After all, the Marshall Plan is the biggest legislative potential on the Hill. It will probably set a pattern for the future relations of all the regions of the globe. For the reason that it will engross the Congress and the nation when it comes up for debate and will have a bearing on all future national planning, the Senate leaders have decided it is not advisable to dis-

cuss tax legislation until the Marshall Plan and the budget have been cleared out of the way.

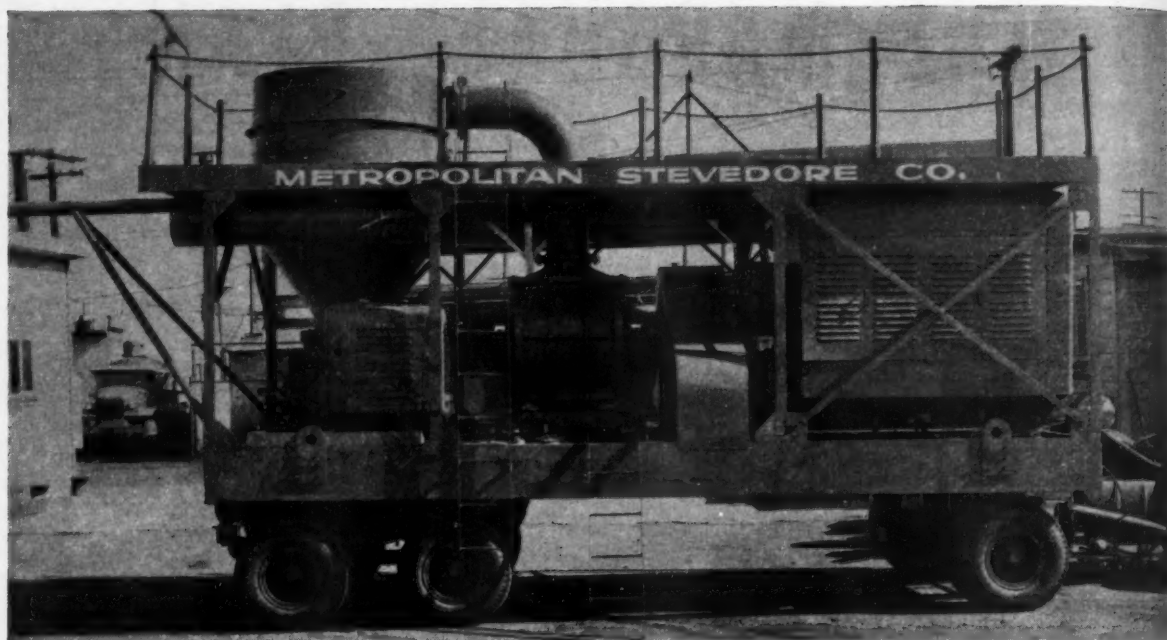
The Republican leaders, incidentally, have decided to cut the budget five billion dollars below the President's desire. In passing, it is appropriate to mention that the principal bills under discussion this month will be chiefly concerned with extension of the President's second War Powers Act, which expires in March. This involves rent control, export-import authority, and controls over several groups of scarce products. It is taken for granted on the Hill and elsewhere in the capital that arbitrary allocation controls will be imposed on steel, fuel, textiles, and food. The industries concerned will be asked for counsel. Price control seems probable over meat and all related products, including lard, butter, oleomargarine, poultry eggs, fish, milk, and cheese. Rent control is expected to be extended at least one year.

The genesis of the Marshall Plan, as it is understood in the capital, is more than interesting: it is important. The story is that there are two groups in the State Department who agree upon the basic theory that we must rescue Europe. Apparently either group is less a sounding board of any

broad national thought than purely the champion of its private opinions, albeit they regard these opinions as a superior product of trained minds.

One group starts with the same postulate as the other, i. e., that only the United States has the means and materials to save Europe. Both regard Europe as absolutely essential to our future welfare. They assume a disintegrating Europe will mean eventual collapse in this hemisphere. The first group holds that in saving Europe we also can maintain our prosperity and develop a permanent export market for the primary industries of our economy, such as oil, automobiles, steel products, textile products, everything and anything you may embrace in the primary classification. Moreover they think we can cleverly make our altruism pay by the immediate market we develop for the products of our primary industries poured into ERP. It is clear that the first group think as businessmen, and probably have the active sympathy of the leaders of primary American industry. Bear in mind, both State Department groups believe—thus far without benefit of publicity—that other relief legislation will be set up by

(Continued on Page 52)



Hydraulic car unloader.

Pneumatic Handling of Bulk C

A wide variety of bulk cargoes are efficiently

and inexpensively handled by pneumatic con-

veyor systems which operate without dust.

By **ROBERT S. CLARK**

*President
Sutorbilt Corp.*



CONTROLLED air in industry is becoming increasingly important. Pneumatic conveying systems are constantly presenting new efficiencies in the handling of bulk cargo, pointing the way to faster, safer, cheaper distribution.

Today such equipment is used extensively in rail, water and truck handling, and the future may find pneumatic loading and unloading machines speeding even the handling of bulk cargo by airplane.

Conveying materials pneumatically has many distinct advantages. First, there is flexibility. The nozzle and flexible hose of a unit can be moved to the material, while in most other types of materials handling, the material has to

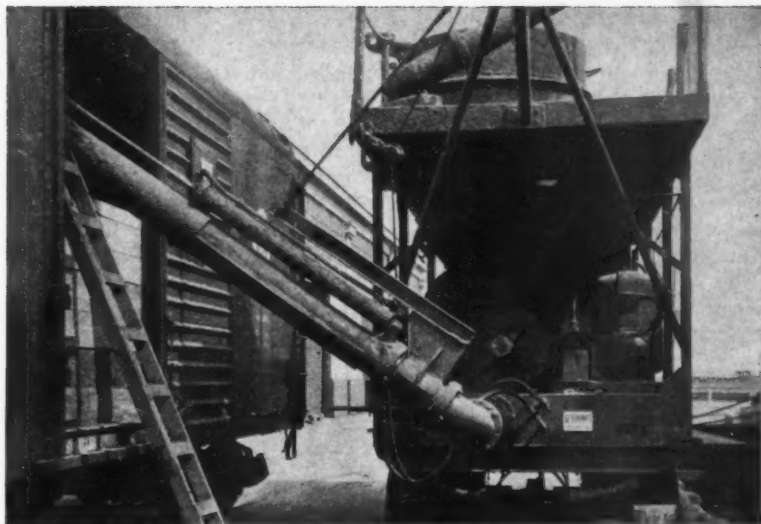
be moved to the equipment. Another feature is the low labor cost involved, for it takes fewer men to operate this equipment than is required to accomplish the same job in the same amount of time by most other systems of handling. Still another advantage is that dust is kept to a minimum since the dust moves through the same closed system as the material and thus does not have an opportunity to enter the atmosphere. Materials handling by controlled air has an overall increased rate of efficiency.

Air conveyors usually are custom built machines based on blowers and driven by standard Diesel, electric or gasoline motors. The engines, as well as the product recovery unit, sizes of pipe, and

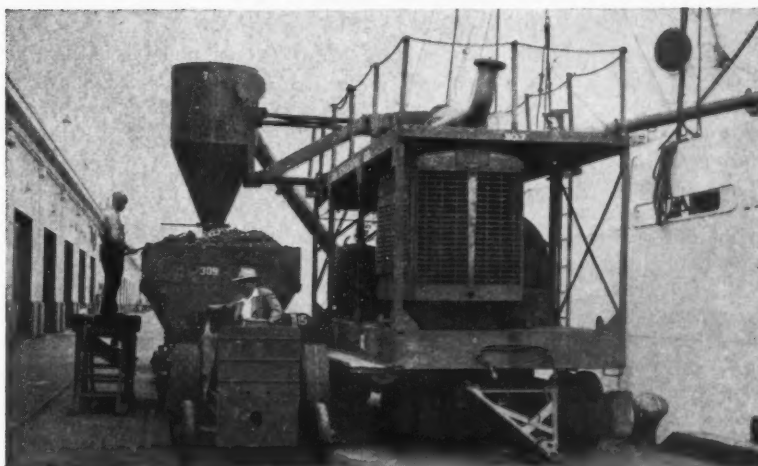
other features, vary according to the specific job the air conveyor is to perform. The rated tonnage of these systems ranges from 1 to 100 tons per hour depending on the job for which the system is installed.

About 15 years ago a representative of a local chemical company requested the design and construction of a pneumatic conveying system for unloading soda ash. This material presents an unusually bad problem in unloading because the dust is an irritant, very injurious to eyes, nose, and open cuts. Use of the suction system resulted in the elimination of the hazard involved. In addition, the

k Cargoes

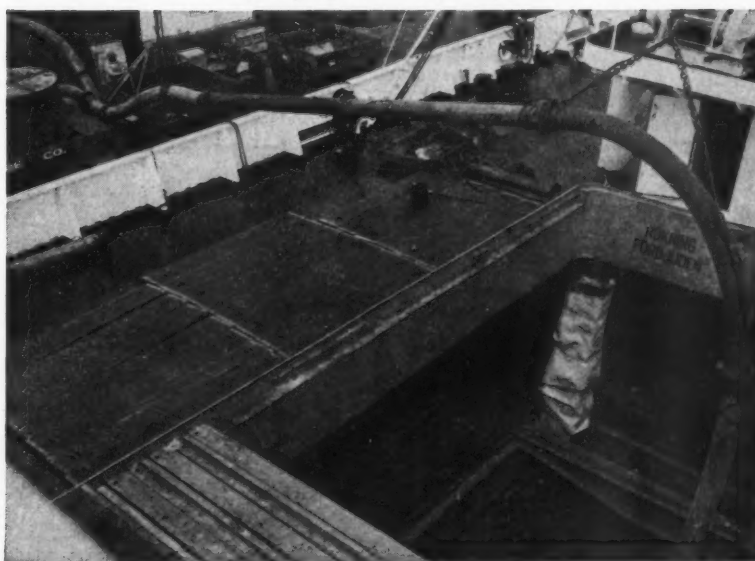


Unloading rough rice from freight car.



Outrigged product recovery unit.

Today's portable unloader.



Sucking copra from hold of ship.

system ventilated the car sufficiently to protect the operator against dust at all times. This original unit unloaded the car at a rate of 10 tons per hour and deposited the material in a process bin approximately 100 ft. away. The product recovery unit in this case was designed to continuously filter soda ash dust from the air. The unit operated on a 40 h.p. motor and a rotary positive exhauster. Capacity was 2,000 cu ft per minute with the equipment operating at approximately seven inches of mercury vacuum. Although conveying by air was not exactly new or unheard of at the time of this installation, modernization of some parts of the design increased the general overall efficiency.

The successful handling of soda ash opened the way for conveying of borax, lime, grains, sugar and other bulk products. Stevedoring of copra (the dried meat of the coconut) is a good example of the effectiveness of air conveyors in the handling of bulk cargoes from ships into railroad cars and trucks, or directly into warehouses. Such a unit must of necessity be portable, for copra-bearing ships do not necessarily berth at the same location, and too the copra is stowed in different parts of the ship. Flexibility, therefore, is of the essence, and is realized by mounting the unit on a trailer so that it can be towed with ease. Today, these units are in service on all coasts of the United States.

The portable units are simple and efficient in operation, reducing to one simple step the three usual legs involved in materials handling—picking up, conveying, and setting down. The machine operates on the principle of pulling material by suction from the source, usually a box car or ship's hold (Fig. 1), by means of a flexible hose, into the product recovery unit. Here the velocity of the material is reduced, allowing the air to pass out through the top and the material to meter down through a rotary seal valve into the discharge or pressure side of the rotary positive blower, which is the prime mover of the entire unit. Material can be discharged directly into a warehouse or be

blown up to an outrigger cyclone (Fig. 2) for loading directly into trucks. Material can also be blown directly into a box car by means of the hydraulic carloader (Fig. 3) which telescopes directly into the box car with a swivel joint on the end for loading in either direction. The entire unit, exclusive of the stevedores in the hold, can be operated successfully by one man. Using a diesel engine, the cost of normal operation averages 60c. per hour. These portable units are mounted on steel deck trailers 8 ft. wide, 22 ft. long, and 13 ft. 6 in. high (Fig. 4). The unit's overall load rating is 51,000 lb., and it can be towed over the highway at 40 miles an hour. Three axles, twelve pneumatic tires, and air or vacuum brakes make it a highly mobile unit.

As the portable machines became more and more utilized for the unloading of ships along the coast ports, there arose a need for conveying the material beyond the normal limits of the portable unloader. To solve this handling problem, stationary pick-up units to take the material as it left the portable machines and to convey it over still greater distances to warehouses or bins were designed.

Usually the material is weighed sometime during this cycle of operation.

In a recent installation, the cycle of operation was accomplished by a system that was both flexible and efficient. Material was unloaded from the ship's hold by from one to six portable unloaders. Material was blown by the portable machines to garner bins at the

top of the scale house, a maximum run of approximately 400 ft., then dropped by gravity through scales and weighed. From here it was metered through rotary seal feeder valves to the pressure side of two large rotary positive blowers which again picked up the material and blew it to one of two warehouses. Maximum run on this operation was approximately 400 ft. The system is designed to convey 180 tons per hour.

Here are a few actual operations in varying fields:

In a chemical process plant, a unit handles five tons per hour of hydrated lime from kiln to processing or to any one of twelve storage tanks from 100 to 300 ft. distant. It also serves to pick up from any storage tank and return to processing. Maintenance cost of this unit, in use for six years, is negligible.

In a borax plant, a unit unloads raw and calcined borax ore from railroad to cars to processing or storage. The vertical lift is 70 ft., and the horizontal carry a distance of 210 ft. Capacity of the unit is 15 tons per hour, which is now being increased to 25 tons per hour.

In a brewery, a pneumatic machine unloads grain and rice (Fig. 5) from railroad cars to any one of six storage tanks. Rate of handling is 7 to 10 tons per hour. No operator is required when moving the grain from storage tanks to process, and during the unloading from the railroad car, only one man is required. Another advantage of the equipment is that a clean, thorough unloading job is the rule, for the flexible, portable metallic hose can be guided to get into small corners.

In an almond plant, a unit moves 50 tons per hour of almonds in the shell from warehouse to processing, a distance of 250 ft. After the nuts are shelled, the air goes through the blower and on the delivery side of the blower, the air picks up the shells and blows them about 800 ft.

Controlled air is giving fast, efficient, dustless, inexpensive handling to a wide variety of bulk items—flax, cotton seeds, grains, minerals, and chemical products. Its field is constantly expanding.

Truck-Trailer Mfrs. Meet

An existing hodge-podge of state vehicle size and weight laws actually is depriving the public of the full use of existing highways, declared L. C. Allman, vice president, Fruehauf Trailer Co., at the 7th annual convention of the Truck-Trailer Manufacturers' Assn. at Mobile recently. "Such laws should be modernized thoroughly before appropriating funds for highways with 'frills' for which the public must eventually pay," he continued. He praised the truck-trailer manufacturing industry for excellent production, but pointed out that there still remains the "job of helping all the American people to get the utmost returns from the use of our roads and streets."

Planetary Construction Gives

EATON

2-Speed

Truck

AXLES

Longer Life

The planetary construction in Eaton 2-Speed Truck Axles provides a number of basic advantages which contribute to efficient, trouble-free operation and long life for axle and vehicle. In the low-speed power range tooth-loads are distributed over four "planet" gears; stress and wear on the teeth are held to a minimum. Slow gear movement makes for easy shifting and silent operation. Outstanding performance records are proof of Eaton quality and design. See your truck dealer for complete information about Eaton 2-Speed Truck Axles.

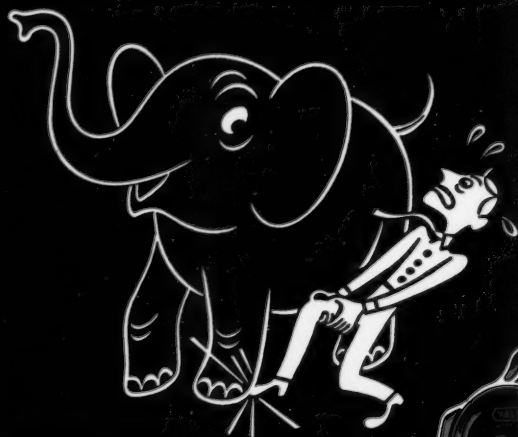
MORE THAN $\frac{3}{4}$ OF A MILLION EATON 2-SPEED AXLES IN TRUCKS TODAY

EATON MANUFACTURING COMPANY

Axle Division

CLEVELAND, OHIO

GET A HOIST!



A YALE HOIST

Are you pinned down by mammoth production costs that muscles can't budge? Then get out from under with a Yale Spur-Geared Hand Hoist.

It will lift more tons per day, more efficiently at less cost per ton than a crew of muscle men. Capacities from $\frac{1}{4}$ to 40 tons. Consult your local telephone Directory for the mill supply distributor nearest you, or send for catalog—SG-T. The Yale & Towne Mfg. Co., 4531 Tacony St., Phila. 24, Pa.



TOOLS THAT KEEP
INDUSTRY
"ON THE MOVE"

YALE

SCALES
HAND AND ELECTRIC HOISTS
HAND LIFT AND ELECTRIC TRUCKS

"ON THE MOVE" WITH YALE



NEWEST ADDITION to the Yale line is the Work saver. It travels and lifts by electric power. Has 2 forward and reverse speeds. 7 models, with capacities from 1,000 to 4,000 lbs.

"MONEY SAVING SPACE SAVER" . . . That's what users call the Yale High Lift Fork Truck. Piles palletized loads ceiling high. Scores of other standard models to fit your individual requirements. Capacities up to 60,000 lbs.



HANDLING MORE MATERIAL with less effort is routine for Yale Hand Lift Trucks. Wide range of models. Single and multiple strokes; mechanical and hydraulic lift. Capacities from 1,000 to 20,000 lbs.



YALE OFFERS NEW SCALE LINE—for the weighing, counting, batching and testing of all kinds of materials. They cut weighing time, give you prolonged accuracy, lowest possible maintenance, increased scale life. With capacities up to 60,000 lbs., Yale Scales meet all industrial needs.

AWA Meeting Stresses the Warehouse Role in Distribution

A DISCUSSION of current trends and practices arising out of the vital and expanding role of warehousing in the national and international distribution picture, highlighted the 57th annual meeting of the American Warehousemen's Assn., Atlantic City, Feb. 9-12. Addresses, reports and informal discussions stressed the importance of the many essential services which modern merchandise and refrigerated warehouses can render customers in the storage, handling, transportation and marketing of goods and pointed to a growing recognition by warehousemen generally of the fact that warehousing no longer can be regarded as separate, isolated activity but as one which must be coordinated with all other distributive activities . . . Harlan J. Nissen, Terminal Refrigerating Co., Los Angeles, was elected general president; Clem D. Johnston, Roanoke Public Warehouse, Roanoke, Va., was named general vice president, and Willard A. Morse, Security Warehouse Co., Minneapolis, was elected general treasurer. Wilson V. Little, Chicago, continues as general secretary.

THE OPENING and closing sessions, attended by members of both the Merchandise and the Refrigerated Warehouse divisions, were devoted to discussions of overall trends in the warehousing industry. A widely publicized address was made by the internationally famous authority on atomic fission and president of the Massachusetts Institute of Technology, Dr. Karl T. Compton, who discussed the various technological and economic pressures which today are conditioning business of the future. The commercial application of atomic fission, Dr. Compton stated, is not an immediate possibility. He foresaw, however, the development of experimental power plants within the next two years and the possibility of atomic energy being used commercially in some fields within the next decade.

Conditions prevailing in the warehousing industry during 1947 were discussed by the retiring president, Paul W. Frenzel, St. Paul Terminal Warehouse Co., St. Paul, who stated that warehouse occupancy, according to membership reports, ranged from 85 to 100 percent of capacity. The story

of the acquisition by the general secretary's office of the duties of public relations, a function which was performed until last year by an outside agency, was told by Wilson V. Little, general secretary. A unique feature of Mr. Little's address was the use of colored slides to emphasize points in his discussion. These slides, by means of graphs and charts, gave pertinent statistical information relating to the number of warehouses of all types and their storage capacity. Basic sources of warehousing information and the various publications issued by AWA were also illustrated, together with other facts of interest. The report of H. W. Wilson, of the Quaker City Cold Storage Co., Philadelphia, and retiring president of the National Assn. of Refrigerated Warehouses, and that of C. D. Johnston, of the Roanoke Public Warehouse, Roanoke, Va., and retiring president of the Merchandise Division, were presented at this session. Both Mr. Wilson and Mr. Johnston reported that while the warehousemen in their respective fields were confronted with numerous and perplexing problems, business nevertheless

was excellent during the past year.

Industry liaison with the armed forces in peacetime was discussed by Charles E. Nichols, Washington, Chairman, Industry Section, Armed Service-Commercial Storage Committee, and by Col. Carl



HARLAN J. NISSEN

Harlan J. Nissen, who was elected general president of the American Warehousemen's Assn., at the Atlantic City meeting, Feb. 9-12, started with the Terminal Refrigerating Co., Los Angeles, twenty-nine years ago, and today he is vice president of the firm. During 1946, Mr. Nissen served as president of the National Assn. of Refrigerated Warehouses, a division of the AWA, in which organization he originated and promoted many new practices which materially advanced the distribution of perishable foods. Mr. Nissen's contributions to the cold storage industry are credited with adding materially to the prestige of the NARW and making the activities it sponsors vital links in the national and international distribution of foods. During 1947, Mr. Nissen served as general vice president of the American Warehousemen's Assn.

F. Tischbein, Chief, Supply Group of the Service, Supply and Procurement Division of the Army and Chairman of the Armed Services-Commercial Storage Committee. Because of the importance
(Continued on Page 67)

Merchandise Sessions



J. LEO COOKE

J. Leo Cooke, the newly elected president of the Merchandise Division, American Warehousemen's Assn., is a native of Philadelphia. His entire business career has been in the warehousing and distribution field. Mr. Cooke, who is regarded as an authority on matters pertaining to cold storage and merchandise warehousing, is the executive vice president of the Lehigh Warehouse & Transportation Co., which operates buildings in Newark and Elizabeth, N. J., and in Brooklyn, N. Y.

THE OPENING session of the Merchandise Division featured a discussion of conditions currently prevailing in the warehousing industry, with particular reference to percentage of occupancy, wage rates, etc. Opinions expressed by members indicated that 1947 was an unusually good year for the warehousing industry. Warehouse occupancy, it was stated, ranged from 85 to 100 percent of capacity, but concern was expressed by some members in respect to the mounting wage spiral. Participating in the discussion were Sherman L. Whipple, Jr., Wiggins Terminals, Inc., Boston; James F. Laughlin, Terminal Warehouse Co., Baltimore; Arthur Link, Newark Tidewater Terminals, Inc., Jersey City; E. A. Powers, Larkin Warehouse, Inc., Buffalo; F. E.

THE discriminatory privileges granted by law to foreign-trade zones, the government's program for the organization of an industry reserve to cooperate with the Armed Services in peacetime, and current trends and practices in the merchandise warehousing industry, were among the many topics discussed at the separate sessions of the Merchandise Division, American Warehousemen's Assn., at Atlantic City, Feb. 10-12. . . . Officers were elected as follows: J. Leo Cooke, Lehigh Warehouse & Transportation Co., Newark, president; Wilfred F. Long, S. N. Long Warehouse, St. Louis, Mo., vice president, and Ray M. King, King Storage Warehouse, Syracuse, treasurer.

Stevens, Jr., Atlanta Service Warehouse, Atlanta; S. T. Heffner, North Pier Terminal Co., Chicago; T. L. Hansen, Hansen Storage Co., Milwaukee; Stanley W. Brooks, Minneapolis Terminal Warehouse Co., Minneapolis; Harry S. Brown, General Warehouse Corp., Springfield, Mo.; R. E. Abernathy, Interstate-Trinity Warehouse Co., Dallas; A. M. Burroughs, The Weicker Transfer & Storage Co., Denver.

Charles E. Nichols, veteran Washington consultant, deplored the political footballing of a Presidential election year which would make the passage of bills favorable to the warehouse industry difficult. Other phases of the Washington scene were discussed by Col. Carl F. Tischbein, Chief Supply Group, Service, Supply and Procurement Div., General Staff, Dept. of the Army; A. B. Drake, Drake, Startzman, Sheahan, Barclay, Inc.; L. J. Coughlin, Bayway Terminal Corp., Elizabeth; and C. D. Williams, Office of Real Property Disposal, War Assets Administration, Washington. Various aspects of the government's program for organizing an industry reserve to cooperate with the armed services in peacetime were reviewed, as was the disposal of surplus war storage facilities. In support of Mr. Drake's plea that the convention support the training affiliation program with direct action, Mr. Coughlin moved that a committee be appointed with Mr. Nichols as chairman to determine the number

of men each local association has available for the organized reserve units. The motion was unanimously adopted.

Samuel G. Spear, Central Carolina Warehouses, Inc., Greensboro, N. C., spoke of the progress being made in the revision of "Warehousing General Merchandise, An Encyclopedia." He declared that it had been completed and was now in the hands of several officers for criticism and suggestions.

L. T. Howell, Terminal Warehouse Co., Philadelphia, chairman, committee on ocean and gulf ports, reported that the present trend to outsiders' bidding for local terminals is unhealthy and not in the best interests of the community. A. L. Fischer, Atlas Storage, Milwaukee, chairman, committee on river and lake ports, summarized the situation at lake ports. "Existing arrangements," Mr. Fischer said, "at railroad carrier dock warehouses at Milwaukee, Green Bay, Manitowoc, Superior and Duluth, as permitted under published tariffs, while not currently affecting warehousemen at lake ports now, leave the door wide open for serious repercussions in the future. The way matters stand now, railroad dock warehouses, while presently under lease, can be made available on short notice for any movement of lake and rail traffic, via season or contract carrier vessel service, in export or domestic trade. Efforts to have

(Continued on Page 67)

Cold Storage Sessions

DISCUSSIONS featuring means of advancing the science of cold storage in relation to the present and future needs of the country and the world, highlighted the largely attended NARW sessions. Through the medium of formal addresses and informal discussions, members attending the sessions were urged to avail themselves of the "know how" made available to them through the scientific research currently going forward. Numerous addresses stressed the importance of warehousemen assisting the industry as a whole in the quality control of perishables accepted for freezing or storing. The global distribution of foodstuffs, it was pointed out in several notable addresses, makes it imperative that the industry fortify its present strong position in the distributive processes of the world and through the use of alertness and the most modern equipment and technique help maintain the democratic principles of free enterprise and the right to self determination.

The use of panel discussions intensified interest in the various topics discussed. These forums included discussions of the following subjects: Cold Storage Costs, under the chairmanship of E. E. Hesse, United States Cold Storage Corp., Chicago; Standard Form of Tariff Provisions, under the chairmanship of P. L. Smithers, Produce Terminal Cold Storage Co., Chicago; Cold Storage Insurance Coverage, under the chairmanship of Richard Klinek, Merchants Refrigerating Co., New York; Modern Materials Handling, under the chairmanship of D. O. Haynes, Merchants Refrigerating Co., New York; Special Quick-Freezing Facilities and Their Operation, under the chairmanship of H. Farnsworth, Quincy Market Cold Storage and Warehouse Co., Boston; Warehouse and Power Plant Operations, under the chairman-



Reading left to right, the newly elected officers of the NARW are Fred Alford, Alford Refrigerated Warehouses, Dallas, treasurer; E. M. Burns, Terminal Ice & Cold Storage Co., Portland, president; A. N. Otis, Merchants Refrigerating Co., New York, vice president.

THE obligation of refrigerated warehousemen to adopt new and scientifically approved methods of cold storage, was the keynote of the meeting of the National Assn. of Refrigerated Warehouses, a division of the AWA and held conjointly with the meeting of the Merchandise Division, in Atlantic City, Feb. 10-12. . . . Officers for the ensuing year were elected as follows: E. M. Burns, Terminal Ice & Cold Storage Co., Portland, Ore., president; Arthur N. Otis, Merchants Refrigerating Co., New York, vice president, and Fred Alford, Alford Refrigerated Warehouses, Dallas, treasurer. William Dalton is the newly-elected executive vice president.

ship of H. C. Emerson, Cumberland Warehouse Corp., Bridgeton, N. J.; Employer-Employee Relations, under the chairmanship of R. M. Hagen, Los Angeles.

New Executive Committee members were elected as follows: J. L. Gagini, Omaha Cold Storage Co., Omaha, Neb.; W. A. Moore, New Orleans Cold Storage & Warehouse Co., Ltd., New Orleans; W. A. Kopke, Chicago Cold Storage Div., Chicago; E. E. Seymour, United States Warehouse Co., Detroit; Harry Foster, Cincinnati Terminal Warehouse, Inc., Cincinnati.

William Dalton, new executive vice president of the association, Washington, was introduced to members and assisted officers in carrying out the details of the

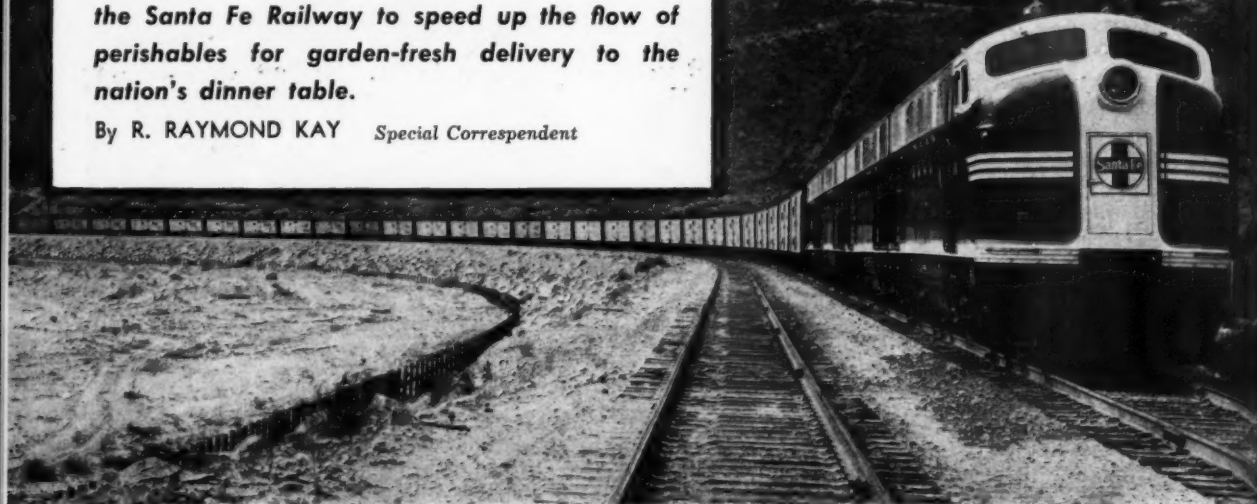
convention. He also presented to members a newly-approved plan of operation and procedure for association activity, including closer working relationships with allied trade groups.

President-elect Burns challenged the convention to a year of increased activity on all fronts, particularly those having to do with closer alliance of industry members with NARW and its local and regional chapters. "The old trade association is gone," he declared, "and those engaged in the producing and handling of perishables nowadays realize that NARW, in particular, is one of the important economic factors in this nation."

Santa Fe's "Red Ball" Freight Service

Modern equipment and techniques are enabling the Santa Fe Railway to speed up the flow of perishables for garden-fresh delivery to the nation's dinner table.

By R. RAYMOND KAY *Special Correspondent*



EVER since its first refrigerator car went into operation a half century ago, the Santa Fe Railway has fought a never-ending battle against time in an effort to move "Red-Ball" (perishable) freight trains from farm to market as speedily as possible. Highballing fruit, vegetables and other perishables across thousand of miles of territory and delivering them field-fresh to the nation's dinner tables has resulted in a scientific search for methods whereby a few minutes saved in each terminal add up to reductions of hours in freight transit time.

To illustrate the expansion of this industry, this railroad alone handled 135,862 cars of fresh fruits, vegetables, melons, packing house products and other perishables in 1946, a gain of 33,974 cars over similar shipments in 1929.

Faster train schedules and improved methods of refrigeration and handling, as well as coopera-

tion of shippers and receivers in loading and unloading, permit cars to make more trips under load per year.

Increased insulation of 2 in. in sides and ends, and 2½ in. in roof and floor—even more in the

very latest shipment—constitutes one of the major improvements in refrigerator cars since 1929.

With insulation stepped up to control the penetration of heat or cold, a standard refrigerator car now contains 3 in., sides and ends,

icing cars at
Bakersfield, Cali-
fornia.

—Santa Fe Photos



and 3½ in. roof and floor, while 350 cars delivered in 1947 have 4 in. in sides and ends, and 4½ in. in roof and floor.

And to accommodate the rapidly growing frozen foods industry, Santa Fe now has a fleet of 245 super-insulated refrigerator cars, after starting with 10 cars of this type eleven years ago. Insulation in these cars is 6 and 7 in. in thickness in order to maintain freezing temperatures.

Newest of the refrigerator cars have steel floor racks, steel running boards, air circulating fans and collapsible bulkheads. They likewise are equipped for stage icing through the installation of additional racks which permits limiting the ice capacity to roughly 50 percent of normal.

The benefit of stage icing, developed during the last ten years, is brought about by the use of less refrigeration or ice during the cooler months of the year, resulting in correspondingly lower transportation cost for protective service enroute. In all, 3,214 cars with air circulating fans added to the refrigerator equipment are now in service; all new and rebuilt cars will be so equipped in the future. These fans maintain even temperatures throughout the car with a variation generally of less than two degrees between top and

bottom of the load, compared to a variation of from six to ten degrees otherwise.

Re-icing in the body of a car in transit with so-called snow ice, is another refrigeration development of the period between 1929 and the present. Snow ice is ice mechanically crushed into powder form and is distributed, similar to being blown, over the top of the load in the car through a flexible hose by slingers.

In the past this service has been performed at icing platforms separate from the regular icing platforms, and cars needing snow ice had to be removed from the train. Now, a top icing facility is located directly below the icing platform which services the car bunkers.

This novel device does away with switching cars, and no time is lost as the retopping is done while the bunkers are being filled. Ice is conveyed direct to the slinger, which moves on a narrow gauge track under its own power, and may be spotted opposite the door of any car in the train.

Experimentation is under way with a stainless steel refrigerator car, equipped with sliding instead of swinging doors and introducing other new features; however, benefits to come from this type of construction have not yet been fully determined.

Improvements in refrigerator service include larger and better facilities for the manufacture, storage, and application of ice, so that this all-important commodity is available where and when needed to protect perishable shipments between point of origin and destination.

Daily ice manufacturing capacity of this company's own plants has increased from 1,600 tons, in 1929, to 2,420 at present. Combined storage capacity of both company-owned and contract plants is 142,400 tons, an increase of 12,000, and annual consumption of ice has jumped from 650,000 tons to approximately one million tons.

"Red Ball" freight service has been expedited to a large degree since 1929 resulting in advancing deliveries a day between many important points. As typical examples, schedules between Chicago and the West Coast have been reduced from 8th to 7th morning delivery, and those between Chicago and Galveston, and Chicago and Denver, from 4th to 3rd morning.

Fast overnight runs have been established between Chicago and Kansas City, Kansas City and Wichita, Kansas City and Oklahoma City, and between Bakers-

(Continued on Page 49)

Recordak Installation at Barstow for microfilm photos of freight waybills. Manifest Clerk C. H. Long (left), copies waybill information for manifest from viewer above his typewriter. At right, Manifest Clerk C. T. Moore places waybills in Recordak machine for photographing.

Developing on the spot is made possible by a new-type film developer for Recordak microfilms of freight waybills at Barstow. Manifest Clerk C. T. Moore is placing film in developer. In less than half an hour it is developed, washed and ready for drying. It is then dried in device at right.



PROBLEMS IN BARGE SHIPPING

For barge shipments in the Mississippi Valley region to realize maximum potential, three things are needed: 1. All year 'round navigation. 2. More efficient terminal handling methods. 3. Completion of the Calumet-Sag project at Chicago.

By RANDALL R. HOWARD *Special Correspondent*

CHICAGO traffic managers and industrial leaders with whom the writer recently discussed barge waterways transportation in the Mississippi Valley, have emphasized three needed developments. First, improvements to keep the upper sections of these waterways open to barge navigation during winter freeze-up periods. Second, the development of more efficient terminal handling methods, especially for smaller shipments of packaged merchandise; and more effective coordination of shipping by waterways with both rail and motor truck transportation. Third, the completion of the Calumet-Sag navigation improvement project at Chicago, to coordinate more closely Mississippi River shipping with that of the Great Lakes-St. Lawrence waterways.

The engineering problem of keeping the Mississippi Valley waterways open to mid-winter barge shipping was recently emphasized in dramatic manner on the Ohio River near Newburgh, Ind. Here sub-zero winter weather caused a float of 12 barges transporting 400 new automobiles worth 500 thousand dollars to become icebound. This happening provoked much newspaper publicity and much resultant speculation as to whether a sudden thaw might break the ice and sweep the barges over a low dam, thus ruin-

ing valuable cargo.

Another incident occurred on the Illinois River near the upper end of the Mississippi waterways system. At a point about 80 miles from Chicago, 28 barges carrying three to four million gallons of fuel oil critically needed to relieve the Chicago zero weather fuel famine were caught in a deep ice gorge and held in frozen immobility for 10 days.

The local publicity on this freeze-up of fuel barges on the Illinois River was made more dramatic through the fact that there had been previous special efforts to head off exactly such a happening. This effort had been made several months before, when it had become evident that if there should develop any winter failure in waterways barge shipping, there would not then be sufficient extra rail cars to meet the emergency needs in fuel oil. Thus, early during the previous October, a delegation of 100 barge line operators and shipper representatives met in Chicago and took first steps to enlist government help to keep the Illinois River open to navigation during the winter months, to aid in the emergency shipping of such commodities as grain, fuel, and general freight.

At the Chicago meeting, President Chester C. Thompson of the American Waterways Operators, Inc., reviewed the like services per-

formed by the government during the final year of the world war, through the use of Coast Guard ice breakers to keep the Illinois River channel open to war emergency navigation. A. W. Frey, chairman of the local committee on barge transportation for the petroleum industry, stated that if this waterway could be kept open it would save the use of thousands of rail tank cars, otherwise required to bring in the average of 100,000 barrels of petroleum needed per day in the Chicago area and normally handled by waterway carriers. A. J. Christianson of the Northern Illinois Coal Trade Assn. likewise said that uninterrupted use of the waterways during the winter months also would save 8,000 rail cars a month, and thus also would facilitate Chicago coal distribution during the entire year. The project of keeping the Illinois River open was followed by conferences in Washington with representatives of the U. S. Interior Department; and with the ultimate result that an allotment of three hundred thousand dollars was made available for use for this purpose by the U. S. Engineers.

The difficulties later encountered in keeping the Illinois River open have placed new emphasis on the engineering problems involved. One problem is the permanent need on the river of improved ice-breaking equipment, since the or-



Ice hampers barge operations during winter.

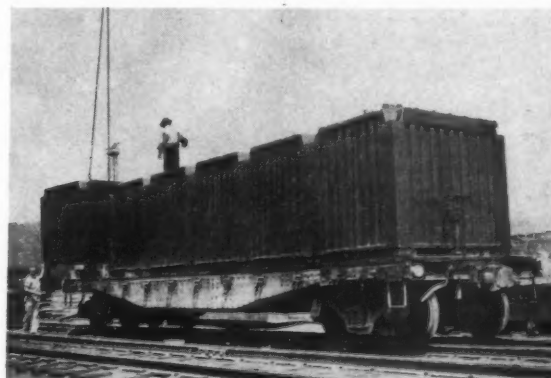
inary river towboat, when handling a tow of barges, lacks the extra power needed to keep its channel open during a series of heavy freeze periods. One important recent improvement has been a type of ice breaker which can be more easily kept on a direct course across a wide lake-like spread of water or in narrow channels.

Some concern recently has been expressed by boosters of Mississippi waterways transportation, over the fact that the volume of packaged goods carried on Mississippi waterways is relatively small when compared with the volume of bulk commodities. Several explanations have been offered. First, barge shipping is naturally most suitable to the mass handling of bulk commodities, not of the "rush" delivery type, which can be utilized by industry in wholesale quantities or stored in bulk. Also, Mississippi Valley barge transportation and water terminals have been steadily trending toward specialization in such traffic. This has been aided by larger and larger diesel-powered tows. One of the special advantages of diesel power came out during the recent sub-zero freeze-ups along the barge waterways. The older type of steam-powered engine demands a steady flow of circulating water with the result



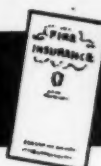
Economic transportation for bulk cargoes.

Container developed by Federal Barge Lines.



(Continued on Page 61)

FIRE INSURANCE CHECK LIST



Yes No

ARE YOU UNDER INSURED?

☐ ☐

Check your policies against current replacement values . . . Under the 80 percent clause, a policyholder who insured property at 1943 values may, in the event of fire, find himself out on a limb because of soaring construction costs.

ARE YOU OVER INSURED?

☐ ☐

A fire insurance policy promises to indemnify the insured to an amount equaling, but not exceeding, the actual value at the time of loss . . . Policies should be reviewed annually to determine "present values."

ARE YOU INSURED AGAINST BUSINESS INTERRUPTION?

☐ ☐

Fire insurance policies do not reimburse you for the profits you won't earn while your plant is being rebuilt . . . Business interruption covers this hazard.

ARE NEW HAZARDS COVERED?

☐ ☐

Fire insurance is sold on the basis of conditions at the time the policy was written . . . Failure to notify your insurance company of any subsequent increase in hazard, may lead to suspension or voiding of a policy.

IS YOUR FIRE PREVENTIVE EQUIPMENT ADEQUATE?

☐ ☐

All fire preventive fire equipment should bear the label, "Underwriters' Laboratories Inspected." . . . All wiring installations should conform strictly to the National Electric Code, and all obvious fire hazards should be removed.

ARE YOUR POLICIES SAFEGUARDED?

☐ ☐

Proof of loss is often destroyed in a fire . . . Policies and inventories evaluating properties should be kept in a fire proof safe or in a safety deposit box in a bank.

STOP

By FRED MERISH

Special Correspondent

THE critical shortage of building materials, the difficulty in getting replacement machinery, the long delay attending these replacements, and their high cost, will play havoc with a management if it has a bad fire, and even a minor conflagration can give plenty of headaches. That is why every management should double-check its fire insurance policies and safety programs now.

Field studies on this subject show that managements are not duly alive to the situation. Many top executives interviewed did not know how much coverage they carried or what their policies covered; fire insurance was something they left to their agent who automatically sent renewals; policies were never read, just pigeon-holed when received and then forgotten until renewal time. Such managements are playing with fire and usually are on the loser's end whether they have a fire or not. These suggestions will minimize the hazard of a fire loss and give adequate protection at the lowest cost.

UNDER-INSURANCE. In view of high cost of replacement construction, many managements are carrying too little fire insurance. Their policies are based on prewar costs of construction and business equipment. Check your policies against current values to determine whether you have enough coverage. Talk over the matter with your agent. Does your fire policy contain an 80 percent co-insurance clause? Do you understand it? Many do not. One policyholder experienced a big loss because the 80 percent clause was not understood. He carried \$60,000 insurance and should have carried \$80,000, or 80 percent of value because his plant was worth \$100,000.

PLAYING WITH FIRE

While management cannot be expected to have expert knowledge of the many technical aspects of fire insurance, it should be sufficiently conversant with its basic objectives to cooperate intelligently with agents and brokers in the formulation of a program to give adequate protection.

Insured for \$60,000, and because a fire loss totaled \$50,000, he assumed that he would be reimbursed fully, but he got only \$37,500, three-fourths of his \$50,000 loss because he had insured for only \$60,000, or three-fourths of the \$80,000 he should have carried on his \$100,000 property under the 80 percent co-insurance clause. The loss payable under this clause is the proportion of insurance to value. If he carries adequate coverage, co-insurance protects the policyholder up to 80 percent of the value of his property, only the remaining 20 percent of a complete loss falls on the insured. Inasmuch as statistics show that relatively few fires are total losses, the co-insurance clause gives a

policyholder pretty safe coverage. However, the high costs prevalent today make it necessary for the policyholder to take an added precaution. He must adjust his coverage to reflect these costs. If a policyholder insured in 1942, value \$100,000, and a fire loss occurs today when construction costs have doubled, he is co-insurer for 50 percent of the loss.

Aside from the protection angle, under-insurance is the common enemy of credit. Sound credit is based upon an adequate and dependable insurance backlog. Management should see that its credit men find out whether credit-seekers are adequately protected today and also make sure that it isn't undermining its own credit by

pigeon-holing policies on receipt and paying no attention to them until renewal time. If such inattention begets inadequate coverage, a fire loss may put you in the red.

OVER-INSURANCE. The purpose of fire insurance is to reimburse the insured for a loss by fire. The policy promises to indemnify the insured to an amount, not exceeding the actual value of the property at the time of the loss, limited to the sum specified in the policy. Insurable value is ordinarily the replacement cost less depreciation, and because the property owner is assumed to be in a better position to arrive at this value, the burden is placed upon him for procuring

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Multiple occupancy building burns, causing \$300,000 loss.



Fiscal Considerations in Export

By CHARLES L. SAPERSTEIN
Packaging Consultant

Exporting, on other than government levels, has been brought to a standstill by the millstone of fiscal regulations imposed by most foreign governments in an effort to safeguard their economy.

EXPORTERS trading on a commercial basis with importers abroad are finding a problem more serious than that of making sales or deliveries—and that is securing payment for goods contracted for shipment. To a lesser extent there have been new handicaps and prolonged delays in securing the exchange to cover deliveries to foreign governmental agencies. However, normal commercial exporting from the U.S.A. has become weighed in some instances to a standstill by the millstone of fiscal regulations being imposed by most foreign governments in efforts to safeguard their economy.

New and more stringent regulations are being announced almost daily so that it is impossible to attempt to summarize the fiscal problems confronting exporters with any degree of finality. The reader contemplating exporting to a country with which he has had no experience, and for which he expects payment in dollar exchange, should first check with the foreign department of his bank or write the commercial attaché of the nearest consulate of that country, to determine if his buyer will have difficulty in making remittance, before going to the expense of preparing shipments.

In nine out of ten countries today, permission to purchase foreign exchange of dollars to pay for U. S. importations is tied to import license. Some South American countries are requiring that



the U. S. exporter have copy of such license in hand at port of loading, to be authenticated by consulates at such port. In at least one country, Egypt, instances of confiscation by the government have been reported where a shipment was proven to have been started ahead of the issuance of the license. More and more, licenses to import are being denied except for the most essential goods, and these often restricted quotas. In the orient—China, the Malay States, etc.—licenses will be granted only to approved traders who were active before the war.

INDIRECT TRADING AND FINANCE.

The situations blocking private trade with U.S.A. through difficulties in official exchange have created considerable unofficial or free exchange activities, which in some countries are legally recognized, in others have a grey market or demi-legal status, and in others, have a black market or illegal status. Some of our exporting is being maintained as a result of two, three and even four-way commodity transactions. An importer in Brazil, unable to effect exchange of dollars to pay for a States shipment, may accrue credit in a Central American republic for a transaction there, which is used to create dollars to his credit by still another transaction between the Latin-American country and the U.S.A. The Brazilian firm then instructs the bank in this country holding this last-named credit to transfer it to the account of the shipper from whom it originally desired to receive a shipment.

Much of our exporting is being maintained in still another way which circumvents sundry foreign restrictions against buying dollar exchange. That is through two- and sometimes three-way unofficial currency selling. An exporter wishing to ship to Italy finds his buyer there cannot secure permission to buy dollar foreign exchange. He therefore finds someone who has need for lire, accepts payment for his shipment in lire, which he in turn transfers to the individual who will pay him dollars for the lire. Or it may be that he sells the lire for Swiss-frances or for sterling, having a

way to convert either of these latter currencies to dollars. Involved and risky? Yes, for rates of exchange between currencies may change while the exporter is holding currency other than dollars. The private trader about to export on such a basis must operate on a wider margin of profit to compensate for possible losses in exchange rates.

COUNTRIES WITH FREE EXCHANGE REGULATIONS. A recent survey shows the list of countries and territories to which an exporter may make an offering with some assurance that his buyer will have no difficulty in obtaining dollar exchange in payment is rapidly growing extinct. At that time there were still a handful. The expectation, however, is that the list will continue to diminish. Naturally, there are no limitations in shipping to or receiving remittances from our own territorial possessions, Puerto Rico, Alaska, Hawaii, Virgin Islands, Canal Zone, etc. Other countries still with no restrictions or extremely minor ones at the time of the survey were Cuba, Dominican Republic, Guatemala, Haiti, Madeira, Panama Philippine Islands, Portugal and the Azores (but not Portuguese East and West Africa), Salvador, Switzerland and Venezuela. Sweden has a so-called free-list, and articles falling within this list may be sold and paid for without necessity for import license to qualify for exchange permit. While Switzerland has no exchange restrictions, payment for goods from America are subjected to the rules of the Swiss National Bank. Cuba is expected, according to recent laws, to introduce restrictions on products competitive to Cuban goods, but these have not been activated up to this writing. A few specified goods to Portugal require an import license, but because conditions for foreign trade are still favorable, it is included among the countries with whom our traders are enjoying unrestricted commercial terms.

OUR NEIGHBORS—CANADA AND MEXICO. The situation of an open border between our exporters and buyers to the north and south is taking on new hurdles here and there. Canada and Newfoundland,

while adhering to the traditional policy of permitting normal business transactions with exporters in the States have been forced because of their recent economic developments to restrain the purchase of luxury articles and merchandise, and to lower the amount of dollars which may be sent out of the country without approval of the Control Board, or handled by an authorized dealer permitted to pass on such purchases. While not considered a part of the sterling area, still Canada and Newfoundland favor in their fiscal regulations transfer of funds to other countries in the sterling bloc. While Mexico is not enforcing regulations which restrict transfer of exchange in payment of shipments from U.S.A., this country has recently prohibited the importation of a number of articles considered luxury or non-essential and an import control board established with powers to establish new import quotas.

THE STERLING AREA. While there is freedom of exchange between Great Britain and her possessions, dominions and protectorates, purchases from this country require first an import license, without which no goods from outside sources may enter any part of the British Empire (except Canada and Newfoundland). Secondly, application must be made for necessary foreign exchange. In the United Kingdom, all foreign exchange is controlled by the Bank of England. Spokesmen for Great Britain are frank to confess the serious economic situation of that country have forced measures necessary to its self-preservation which are admittedly one-sided during the period in which the nation is struggling to achieve some semblance of balance of trade. An example was the restriction against importation of American made films which came at the same time the British were making efforts to increase the exportation of their films to this country.

SOUTH AMERICA. Argentina and Brazil during 1947 have spear-headed restrictive legislation covering imports. This practice has spread to envelop all of the con-

(Continued on Page 49)

DISTRIBUTION OF SALT

Salt, which is produced in the United States at the rate of eight billion lb. a year, is a major industry . . . In this article, Mr. Crane describes how it is produced and distributed to its millions of industrial and household users.

By WARREN E. CRANE

Special Correspondent

SALT is usually produced in one of three ways. It may be mined in the same manner as coal, it may be dug out of the ground by means of a well, or it may be produced by the solar process.

Rock salt lies in vein-like deposits under the earth in practically the same formations as coal. In common with coal, it crops up occasionally on the face of the earth. These are the salt licks that are so vital to the welfare of wild animal life.

Let us watch the steps that take place in the work of producing salt according to the solar process at Saltair near Great Salt Lake, nine miles from Salt Lake City, as well as other production processes, and its distribution to the tables of the world, by the Morton Salt Co.

Far out in Great Salt Lake, the pump house stands on pilings driven into sodium sulphate. The making of solar salt begins here when one of the men starts the motor. First, water is removed through a pipe from the salt-heavy waters of Great Salt Lake by a 5,000 gallon-per-minute pump. In order to withstand corrosion, the pump casing and impeller are made of nickel alloy steel. It is operated by a powerful 100 h.p. motor.

A 24-in. stave pipe carries brine from the pump house to the shore, a half mile away. 2,200-volt power is carried on lines which operate the pump motor.

From the wooden stave pipe line, the salt water travels through a mile of wooden flume, and approximately two miles to the set-

ling ponds with the pressure of the pump behind it.

Unfailing attention is required to insure that proper densities and flows are kept up in different ponds. Frequently the attendant must spade the salt from one of the gates between the ponds to provide a free passage.

It has been found that rain and temperature greatly influence the production of salt by the solar process. The operators cannot control them, but they do keep a daily record of them both. One man checks the rain gauge each day while another reads the maximum-minimum thermometer.

In settling ponds, all suspended matter drops from the salt water. At the proper density, it is turned into "garden" ponds where salt begins to precipitate out of the water. About an inch is precipi-

At Saltair, Utah, on Great Salt Lake, there were five specially designed harvesters that operated to cut a huge swath in the solar fields.



tated on pond floors. In the latter part of May, a tractor pulls heavy drags that are used to make the "splits" which are parting lines at the bottom of the new salt crop that determine the depth the plow reaches during the harvest. In late summer, a tractor pulls an ordinary farm plow that operates down to the "split," performing this operation after the ponds have been drained of excess water.

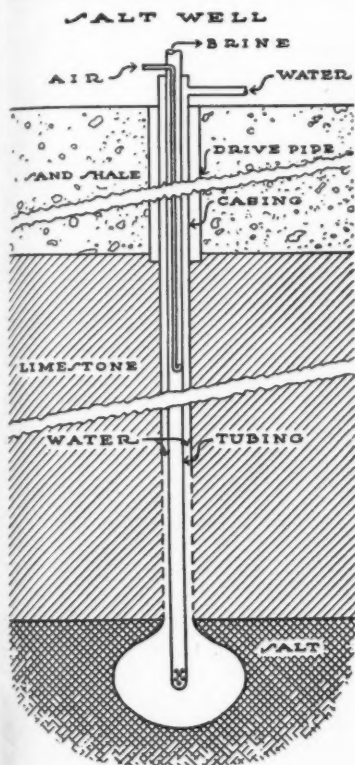
After the plowing is over, salt is gathered by Saltair-designed har-

vesting machines, consisting of Fordson tractors mounting hydraulically operated scoops that are lowered to the pond floor where they pick up a cubic yard of salt. A lift then raises the scoop while the machine travels to a conveyor hopper. Next, these conveyors that are mounted on rubber tires pile the salt near the pond rail tracks.

The conveyors are equipped with floodlights for use during night harvesting operations. At Saltair, there are five specially de-

signed harvesters that operate together to cut a huge swath in the solar fields. After the salt in the ponds has been harvested, the floors are smoothed by a leveler to prepare them for the next season. When the salt has been piled along the rail tracks, the water that still clings to it drains into pools. After it has dried out, a big shovel dumps it into a conveyor that elevates it to waiting railroad cars. A train of cars is then hauled to the plant from the

(Continued on Page 72)



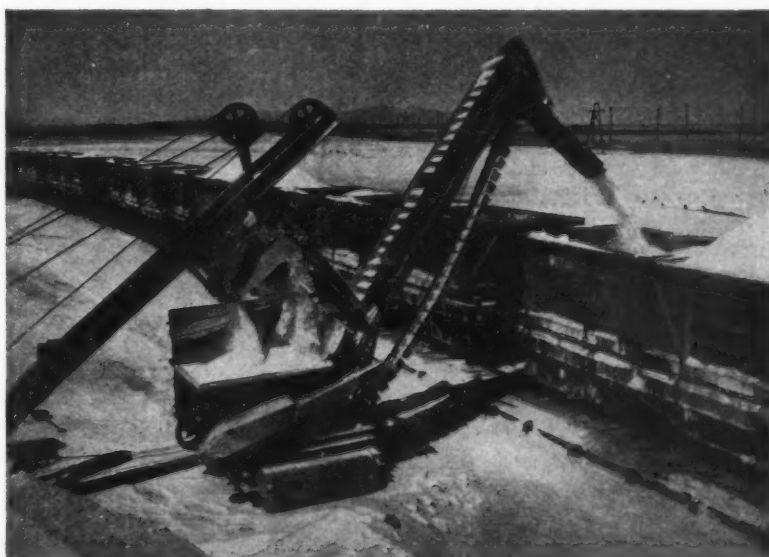
CROSS SECTION OF A SALT WELL

A salt well is drilled down to the rock salt deposit in much the same way as water, gas or oil wells except that it has a double casing or pipe—one inside the other. Pure fresh water is pumped down the outer casing to the salt vein below and forms a brine or mixture of salt and water which, being heavier than water, sinks to the bottom of the cavity and is forced up the inner casing by the pressure of the fresh water coming down. In sections where the salt is at a fairly shallow depth, the pressure of the water pumped in is sufficient to force the brine to the surface, but where the rock salt is deep it becomes necessary to employ air under high pressure to elevate the brine. In such wells a compressed air pipe with a "U" bend at the bottom is dropped down as shown above through the inner casing to a point just below that to which the brine is raised by the pressure of the incoming water. Upon reaching that point, the brine is carried the rest of the way to the surface by the upward force of the air. From this, it becomes clear that water mines salt as efficiently as the most expert miners.



Bird's eye view of Morton Salt Company's refinery at Saltair, Utah.

The Keystone shovel dumps into conveyor which elevates the salt to waiting railroad cars. A crusher is incorporated in the conveyor unit to crush lumps which form in cold weather.



Cargo Volume Waits on Regularity



The real problem of air cargo transportation is the achievement of all weather flying . . . Since the airlines cannot supply funds sufficient for the necessary research and development, the fundamental responsibility for the realization of this goal rests with the federal government.

By JOHN H. FREDERICK

Air Cargo Consultant

MUCH is being said about the volume of air cargo that will become available under rates now in effect, or under the rates now under CAB suspension, if and when they or similar rates go into effect. Very little is said, however, about the chief factor that will prevent the development of this volume or anything like it. This is the lack of regularity and dependability of air transport to-day and in the future unless something is done to improve the situation quickly. We still have to beat the weather!

No form of transport is worth using at any rate, no matter how low, unless it can be depended upon to deliver the goods, and we can not ignore the fact that air transport is not dependable to-day. Weather still plays too important a part in air carrier operations and is the cause for most grounded planes. It is one thing to have thirty or forty cargo planes grounded between Kansas City and New York because of weather conditions closing down airports in the East. It is quite another thing to have several hun-

dred such non-completed flights. Yet if we ever reach volume air cargo traffic, we will have around five hundred exclusive cargo planes in operation daily. Shippers just will not use air transportation month in and month out throughout the year—the kind of traffic the air carriers make money on—unless they can have assurance that planes will reach destinations reasonably on schedule. Shippers cannot take the risk of having shipments held on the ground enroute, transferred to ground carriers short of destinations and otherwise delayed.

The real problem of air cargo transportation is, therefore, the achievement of all-weather flying. This means all-weather landing and take offs. Weather doesn't mean so much to a plane in the air but it means a great deal during the first three minutes and the last

three minutes of any flight. Many people realize this but we have been awfully slow in doing very much about it because we have been so occupied in the progress of the art and science of flying in the air that we have neglected traffic control and ground handling.

The plain truth of the matter is that present air navigation and control facilities are not good enough to enable air transportation to come into its own for passengers, let alone cargo. We must develop and equip our airways with an all-weather air navigation and traffic control system right away. Neither our military nor our civil aviation is all-weather in any sense of the word and never will be until such a step is taken.

A portion of the responsibility for the improvement belongs to the
(Continued on Page 50)



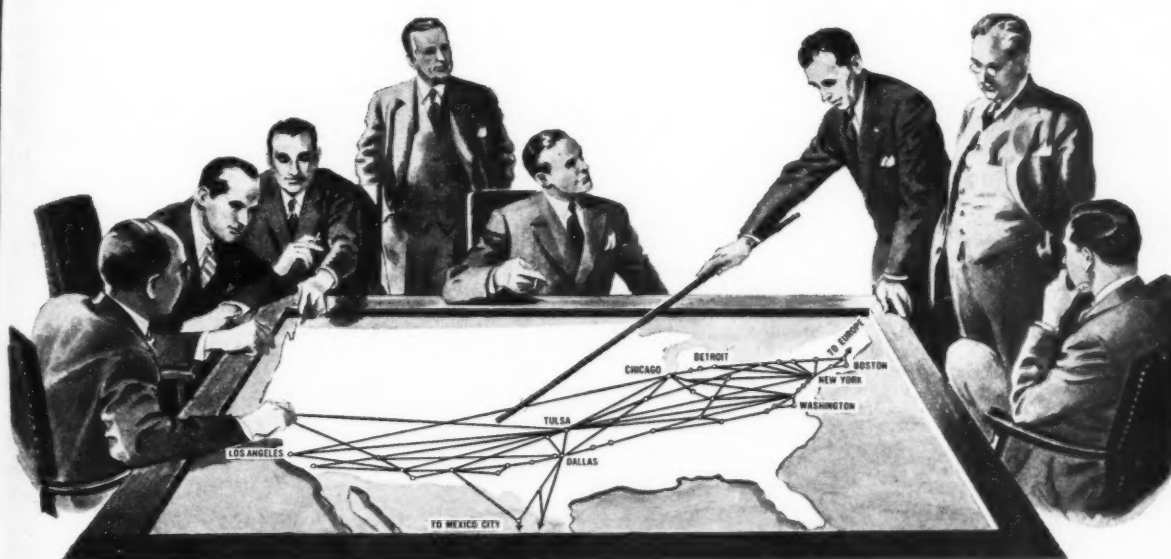
How American's high-speed **Airfreight**—
at low cost—can be

THE KEY TO NEW DISTRIBUTION

By reducing shipping time to hours instead of days Airfreight accelerates and broadens every phase of distribution—opens new and bigger markets... meets demand regularly with the right merchandise—at the right time. Stocks are always balanced and never lacking in fast-moving items. This means faster turnover and reduced inventories. In fact, one large television manufacturer has dispensed with local stocks, operating on a "ship as you sell" plan.

No doubt about it, Airfreight is the modern distribution weapon that makes possible new ways of doing business. And, with alert businessmen more conscious than ever of distribution costs, Airfreight takes on added importance as a means of effecting economies.

Find out how Airfreight can work for you. Call your nearest American Airlines office or write to American Airlines, Inc., Cargo Division, 100 East 42nd Street, New York 17, N.Y.



American's Airfreight is available in 77 cities on American's domestic routes.

LOOK BEHIND THE TARIFF . . . Don't be misled by simple comparisons of point-to-point shipping charges. It's the over-all transportation cost that counts. American's Airfreight helps you pare down "hidden costs" — for example you can operate on smaller inventories and have less capital tied up in transit. You can also gain new profits with Airfreight by getting your merchandise to market at the most favorable time . . . by obtaining highest prices for air-shipped products . . . by establishing new and more profitable merchandising and distribution policies based on air shipping . . . and by exploiting new and larger markets.

TIME YOUR SHIPPING BY THE CLOCK
—NOT THE CALENDAR!



AMERICAN AIRLINES
Airfreight

1948 TRUCKING TRENDS

Truck rates have increased only 30 percent since 1939 as against an increase of 81.5 percent in the general price level and a rise of 116 percent in agricultural prices . . . Meanwhile, soaring costs are posing many vexing problems for the industry.



By ED J. BUHNER

President American Trucking Assns., Inc.

HERE'S what's been happening to tonnage hauled by the trucking industry during the past seven years. Our index figure on truckloadings stood at 116 in 1940. Today it stands at 205. Volume of truckloadings has increased 76.7 percent between 1940 and 1947. During the same period, the railroad tonnage stood at 1,843,289,714 in 1940 and moved up to 2,620,247,275, or an increase of but 42.1 percent. Not a bad increase for either form of transport, but please note that the trend is to trucking.

—An address before the Commerce and Industry Assn. of New York.

These figures are for Class I haulers only. There is no place to obtain accurate figures for the vast number of private carriers in the nation. Nobody truly knows how much is hauled in the trucks owned by agriculture, industry and government. We do know that the number of trucks and tractor-trailer combinations registered in the various states has climbed from 4,859,000 in 1941 to more than 6.5 million in 1947, an increase of 33.7 percent and this despite the virtual impossibility of buying trucks during the war. A very substantial part of that increase must be credited to those pro-

ducers and distributors who carry their own products in their own trucks.

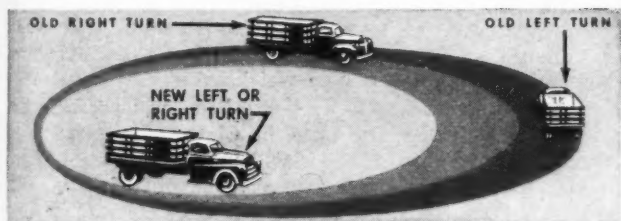
I suppose that a great many people noted recently the Census Bureau figures on population increase and population prospects in the years ahead. The birth rate in this country is at an all-time high. Last year the rate was 26.2 births per thousand of population as compared with less than 18 births per thousand pre-war. That's a birth rate today just 50 percent higher than pre-war.

Businessmen know that an expanding population means an ex-
(Continued on Page 57)



**ONLY DODGE OFFERS
YOU ALL THESE NEW**

Truck Features



2. EASIER HANDLING BECAUSE OF NEW CHASSIS DESIGN

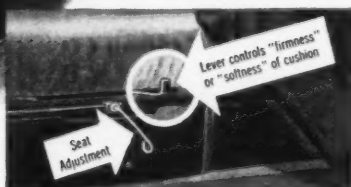
You can turn these new "Job-Rated" trucks in much smaller circles—and steering is much *easier*, too. This is due to a new type of steering, in combination with shorter

wheelbases. Front axles have been moved back and engines forward, placing more of the engine and cab weight on the front axle. You get much better weight distribution.



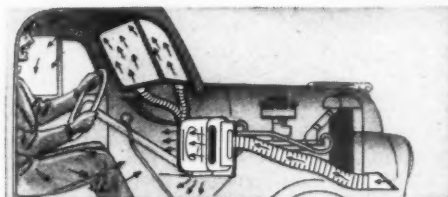
3. MORE COMFORT FROM "AIR-O-RIDE" SEATS

New weight distribution, wider tread front axle, longer springs produce a marvelous new "cushioned ride." "Air-O-Ride" seats give a "soft," "firm," or "medium" seat. 7 full inches of seat adjustment.



1. NEW ALL-WEATHER VENTILATION

Year-'round *comfort* is assured by a combination of fresh air intake, hot water truck heater, defroster tubes, vent windows, and cowl ventilator.



4. IN ALL . . . 248 BASIC "JOB-RATED" MODELS

Every unit of every Dodge truck, from engine to rear axle, is "Job-Rated" for economy, performance, and long life. You save money with a truck that fits *your* job! 248 *different* basic chassis and body models, engineered for gross vehicle weights up to 23,000 pounds, and gross train weights up to 40,000 pounds.

**NEW
DODGE
"Job-Rated"
TRUCKS**

*...and only
Dodge builds
"Job-Rated"
trucks!*

Unit Loads Without Pallets



By MATTHEW W. POTTS

Materials Handling Consultant

Does the appearance in the materials handling field of handling accessories specifically designed to eliminate pallets in many heretofore palletized operations indicate a trend away from the use of pallets in production and distribution?

WAS the introduction at the recent Cleveland Materials Handling Show of various types of accessories specifically designed to eliminate the use of pallets in many heretofore palletized operations indicative of a trend away from the use of pallets in production and distribution? Or can the numerous exhibits featuring such accessories more properly be interpreted as an attempt on the part of equipment producers to come up with something which can do an acceptable job for those men in production and distribution who have been reluctant to "go all out" in mechanized handling and shipping because of the expense attached to palletized operations and because of the unsolved pallet-return problem? If we can accept this latter suggestion as the right answer, we can accept the appearance in the materials handling field of pallet-eliminating devices as one of those evolutionary pressures which can result in the enforced production of better and cheaper pallets and a solution of the pallet-return problem. Rail, water and highway carriers, have, since the introduction of pallets, maintained a high freight rate on loaded and empty pallets. Furthermore, they have penalized the shipper by mak-

ing him pay commodity rates for pallets when making palletized unit load shipments.

To combat the high cost of palletized shipments, expendable pallets of various types and materials such as light metal, cardboard and paper, as well as pallet units of wirebound construction similar to fruit crates, have been developed to reduce the weight and therefore the cost of the load. It is possible to discard expendable pallets after one or two shipments, without having to take as large a loss as would be the case with a hardwood or heavy metal pallet.

These developments have met with varying success, depending upon the application, the commodity being handled, the type of storage, etc. A number of them were shown at the exposition, and there is no doubt that they are a requirement if we are to continue to ship loads on pallets.

Before discussing the various types of pallet-eliminating devices exhibited at the Cleveland Show, the writer would like to point to the advisability of modifying handling nomenclature to the extent of dropping the customary prefix "palletized" when referring to "unit loads" unless palletizing is actually involved. Heretofore, it

has been customary to assume that unit loads were palletized, but recent developments make it necessary that we distinguish between those which are palletized and those which are not.

The Pul-Pac, which was exhibited in Cleveland at the 1947 materials handling show and again in 1948, is one of the pallet-eliminating accessories under discussion. The principal involved in its operation is sound, but its adaptability to all types of unit load handling has yet to be proved.

Several manufacturers showed accessories which could be considered as "push-offs." These have applications for moving the load off the pallet when loading a truck or car, but in most instances they have no way to reload at the receiving end. Therefore the "push-off" is also only a partial answer to the problem of permitting the shipper to unload his pallets in units rather than in individual packages.

However, this year there were several manufacturers who offered a variety of types of clamping devices—for boxes, cartons, bales, bricks, concrete blocks, and other commodities—which permitted unitloads to be handled at the

(Continued on Page 84)

**WHEN CHOOSING
A TRUCK
BE SURE
IT HAS**



CLARK CLAMP LIFT TRUCK



CLARK CLAMP LIFT TRUCK

DEPENDABLE POWER



EXIDE-IRONCLAD BATTERIES

have lifting power, hauling power, lasting power . . . when you need it, as you need it, and straight through every shift. This extra power of Exide-Ironclad Batteries is due to a unique construction, which differs from that of all other batteries.

One notable difference is in the positive plate, which consists of a series of slotted tubes containing the active material. So fine are these slots that, while they permit easy access of the electrolyte, they retard the active material from readily washing out.

The results are High Power Ability, High Electrical Efficiency, Ruggedness, Long Life and Low Maintenance. Only Exide-Ironclad Batteries have **ALL FOUR** of those vital characteristics.

For peak performance and maximum economy, choose the batteries that 81.1%* of electric industrial truck owners prefer—Exide-Ironclad Batteries. *From a recent survey by a leading business publication.

Write for further particulars and **FREE** copy of Exide-Ironclad Topics, which covers latest developments in material handling and shows actual case histories.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

Metal Strapping

Combined Multiple Units



ONE of the most important phases of distribution is the adequate and satisfactory packing of merchandise for shipment. Improper packing results in waste of time and money, and further in damage to shipments, unnecessary handling, higher freight charges, opportunities for pilferage, and dissatisfied customers.

One method of improving packing, which is gaining more widespread adoption every day, is the use of tensional steel strapping. The Consolidated Freight Classification, which governs the packing and shipping of merchandise by rail, specifies steel strapping in many instances. Even when not specifically named in package requirements, this method proves valuable in insuring a greater degree of safety to a shipment and in considerably reducing the distribution cost.

Metal straps, correctly applied to a properly designed wooden box, definitely increase its durability. The thickness of lumber required may be reduced 20 to 40 percent when bound with metal straps. Such strapping protects against pilferage, for when properly applied the straps preclude the possibility of lifting boards to get into a package.

Application of these straps, however, should not be made until just prior to shipment, because

for Better Packing

Improper packing results in waste of time and money in damage, pilferage and unnecessary handling . . . Steel strapping is gaining in approval as a method to provide more safety at less cost.

By WALLACE H. MILAM

Operating Div.
Wallace H. Milam & Co.

shrinkage of the lumber may occur as drying progresses. This, of course, would loosen the straps, and cause nailed strapping to buckle or "festoony" between nails, thus greatly reducing its effectiveness.

The two types of flat metal strapping are known commonly as unannealed and annealed. The unannealed straps, which include plain flat metal strap and special-temper flat metal strap, are applied around the girth of the box, drawn up tightly by a hand machine, and the ends fastened with a sealing device. For this reason it is known as nailless strapping. Annealed straps, which include plain, embossed, corrugated, and

double-edge flat metal straps, are applied around the box directly over the ends and are held in place by nails. The various types of annealed nailed straps have holes or slots that permit easy driving of the nails. Flat straps nailed around the extreme ends of a box act somewhat as a cleat in retarding failures in the ends and reduce chewing or weaving of the box. They also help to prevent the nails from pulling from the ends, pulling through the sides, top, bottom, or shearing out at the ends of the boards.

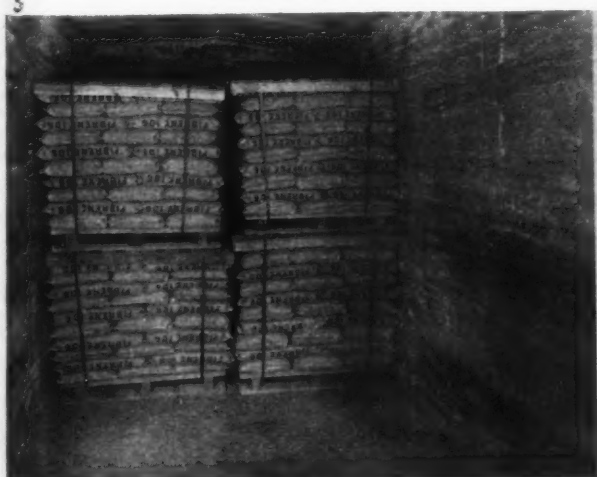
Straps placed some distance from the ends of the box help to distribute to various parts of the box the shocks which are otherwise

absorbed in local spots and which eventually greatly weaken the box. Placing straps in this fashion relieves much of the direct pull on the nails in the ends, and also reduces materially the losses resulting when the sides, top, and bottom split or break across the grain of the wood.

Cleated-end boxes ordinarily fail in one of the following ways: the sides, top and bottom pull nails from the ends; the nails shear out at the ends of the boards; or the boards break across the grain. Straps are most effective on these boxes when applied perpendicular to the grain in the sides, top, and bottom.

The straps should be drawn

Pallet Strapping



Floating Load Method.



sufficiently tight across the box to have the metal cut into the edges. This prevents slipping in case of further shrinkage of the box boards. The straps should be at right angles to the edges of the box to minimize the possibility of their working loose.

Generally speaking, nailless straps should be applied as follows:

1. If one strap is used, it should encircle the sides, top, and bottom at center of the box.
2. If two straps are used, each should be placed around sides, top, and bottom at a distance from the end equal to one-sixth the length of the box.
3. If more than two straps are used, the additional ones should be equally spaced between the two outer straps.

Investigations have shown that strapping having a maximum tensile strength of approximately 84,000 lb. per sq. in. gives very satisfactory results. The seals used to hold the ends of nailless strapping should develop at least 75 percent of the strength of the strapping.

About the Author

The transition of Mr. Milam from railroading to traffic management after World War II followed a wide and varied career in transportation, which began on the N. C. & St. L. Railway at Marietta, Ga., in 1914. In 1918 and 1919, Mr. Milam served with the operating division of the 150th Railway Transportation Corps., A.E.F., in Le Mans and Chateau du Loir, France. After returning to the United States, he went with the Atlanta Joint Terminal, where he remained until his subsequent association with the Lehigh Valley Railroad at South Plainfield, N. J.

At the beginning of World War II, Mr. Milam joined the Southern Pacific Railroad at Tucson as a train dispatcher, followed by a similar tour of duty with the Santa Fe at San Bernardino, Cal. Mr. Milam states, "The smaller shippers' problems are just as complex as their much larger competitors', who enjoy the decided advantages of a traffic manager with a well-trained staff, and the common carriers of this country should certainly concentrate on some means of aiding this group, in order that they may adapt a more advantageous use of transportation accordingly."

Nails used to hold straps in place, when the straps are applied some distance from the ends, ordinarily do not add sufficient strength to the box to compensate for the decrease in tensile strength of the strap caused by driving nails through the metal. Consequently, it is usually advisable to use in such cases a somewhat larger strapping than is required for nailless straps or straps nailed around the extreme ends of the box.

Another application is the use of staples. The army and navy have issued general specifications for packaging which read in part as follows:

"Cleated plywood shipping boxes: straps shall be stapled to the cleats of the box by cement-coated staples spaced at intervals of approximately 6 in.

"Nailed wooden shipping boxes: straps shall be stapled to the boards of boxes when the thickness of boards is 7/16 in. or greater."

There are many types of practical and speedy tools for the tensioning and sealing of steel bands around all varieties of shipping packages. Ordinarily, these machines tension, cut, and seal in one operation.

Reduction in the size and thickness of container walls often results in a reduction in cost that is more than enough to pay for the steel strapping used. Here is a table showing reductions in thickness of lumber made possible by the use of steel strapping:

Unstrapped	1 strap	2 or more straps
3/8 in.	5/16 in.	1/4 in.
1/2 in.	3/8 in.	5/16 in.
5/8 in.	3/4 in.	1/2 in.

Applying Steel Strapping to a Crate.



Straps used on bales and bundles, and even on such non-compressible objects as steel plates, are very advantageously applied. There is a saving in volume which materially reduces storage costs. This is a large factor in export shipping, where volume almost always is used to determine freight charges. When steel strapped, packages are easily unpacked, by simply cutting the straps.

Shippers say that after instituting steel strapping methods, overall savings have been realized of from 40 to 80 percent of former costs. A decrease in loss and damage claims and reductions in freight costs and time used in assembling and handling boxes proves the worth of the strapping procedure.

On carload shipments, the familiar practice of bulk-heading, car bracing or blocking was developed

(Continued on Page 62)



Wichita crew applying fiber glass insulation in a rebuilt refrigerator car.

field and Los Angeles, saving to shippers and receivers of freight what amounts to an entire day.

One of the railroad's latest innovations against lost motion is a little machine known as a Recordak, which photographs waybills by the same microfilm process that made V-mail a success during World War II. Tested at Barstow, California, since December, 1946, Recordak handling of waybills has practically eliminated delay to trains for bills by reducing from an average of thirty minutes to approximately seven minutes the time waybills are in use by the manifest clerks before being turned over to the bill clerks for their handling.

Considering that California ships more perishable freight than any other state in the union, and that most of Santa Fe's heavy movements of southern California citrus and San Joaquin Valley crops move through Barstow, the fact that no grass grows under the

wheels of "reefers" routed through this desert terminal is all-important.

Before installation of Recordak, the Barstow manifest was typed by copying the necessary information from each waybill. Maximum speed in copying waybills on a typewriter is about two waybills a minute. Therefore, on a 60-car train, the manifest clerks would have the waybills for about one-half hour.

Under the present arrangement, when the bills are handed to a manifest clerk he feeds them into the Recordak machine, a high-speed automatic photographic unit which photographs 60 bills on 16-millimeter film in seven minutes or less—a saving of at least 23 minutes. It now often happens that green fruit trains out of Bakersfield are called on their finals at Barstow, and are in and out of the terminal in 30 to 45 minutes, with V-bills a substantial factor in accomplishing this result.

FISCAL

(Continued from Page 37)

tinient except Venezuela. Since most countries there restrict payment until goods are actually received, letters of credit payable in U.S.A. against shipment are virtually non-existent, except for purchases by governmental agencies. Import permits also now are generally required.

ENEMY COUNTRIES — GERMANY AND JAPAN. Except for the Russian zone of occupation in Germany the military commands of Germany and Japan are granting approval for a limited, but growing, amount of imports. Once approval is secured for import from the Joint Export-Import Agency in Germany or the Import Bureau of the Supreme Command of the Allied Powers in Japan, there is little difficulty in obtaining exchange through purchase of letter of credit in favor of the shipper in the United States.

U.S.S.R. AND SATELLITES. There is no exporting at present to Russia except that handled by government purchasing agencies in this country. Practically no foreign trade exists at present with countries within the Russian sphere of influence, with the exception of Finland and Czechoslovakia. It is next to impossible for a private trader to secure exchange in Hungary, Bulgaria, Roumania, Yugoslavia, Albania and Poland, in payment of a purchase from the States.

BALANCE OF EUROPE. Providing import licenses are granted, it is possible to do a fair amount of exporting to Belgium, Holland, Denmark, and to a lesser degree, Norway and Italy. We mentioned earlier, that Switzerland and Sweden are yet enjoying relatively free conditions. Regulations for exporting to Greece are rather stringent. The same is true of Spain, with the exception of a few government-approved importers who seem to have no difficulty in securing permits and obtaining exchange. France is importing, but mostly through official chan-

(Continued on Page 81)

AIR CARGO—(Continued from Page 40)

airlines, but they do not have the resources to handle the whole problem on the necessary scale and a partial solution will not be the answer. The fundamental responsibility, therefore, rests on the federal government, which already is inextricably involved in air transportation through its close control of air transport activities and its operation of the airways. It is, therefore, the responsibility of Congress to create a set of circumstances favorable to safety and regularity. This may be done most easily through the appropriation of funds for adequate airway and airport development and air-traffic control as well as adequate aids for air navigation and the operation of same.

There are various devices, already in operation at certain airports in the country, which if universally adopted would do much to

increase air transport regularity. The most important of these are:

GROUND-CONTROLLED APPROACH, KNOWN AS G.C.A. This device is based on the principle of radar and might better be called ground supervised or instructed approach. Through the use of radar, which is not magic despite its war usefulness, an operator on the ground can tell the distance, direction and altitude of a plane, and via two-way radiotelephone can converse freely with the pilot and tell him how to turn, to ascend or descend, so that when the plane breaks through the overcast it will be in a position to land on a runway with which it is already aligned and which the pilot can now see for himself. G.C.A. cannot land a plane. It is strictly an aid allowing a considerably closer bad-weather approach to the ground than can be made without it. No

special equipment is needed in the plane other than a two-way radio-telephone.

INSTRUMENT LANDING SYSTEM OR ILS. This device cannot land a plane by itself although it is possible to couple it to an automatic pilot so that the plane may be brought quite close to the ground. From there it must be landed visually and manually except under hand-picked conditions when the automatic pilot can actually put the wheels on the runway. Essentially ILS is a radio-approach path which an aircraft follows. This path projects from, and in line with, a runway and is slanted up at the proper angle for the approaching plane to slide down. Unlike G.C.A., ILS requires additional equipment in the plane, the key item being an indicator with a vertical and horizontal needle that tells the pilot to go to the left or right, or up or down, in order to follow the slanting flight path. In addition, two or more spaced radio transmitters on the ground automatically turn on different colored instrument panel lights, indicating to the pilot the distance to the runway ahead.

HIGH-INTENSITY GROUND LIGHTS. Ordinarily, airport lights are unable to penetrate murky weather effectively. Increasing the candlepower results in greater visibility. One solution to conquering the distance between the final approach altitude and the runway end lies in the use of tremendous amounts of candlepower and controlling the direction of the light beams. To the pilot it is reassuring to have a visual check during his let-down onto the runway.

TELEVISION-RADAR AIR NAVIGATION, COMMONLY KNOWN AS TELERAN. This device is intended to provide general navigation, traffic control, collision prevention, talk-down landing, pictorial landing, automatic flight, weather-map reception, taxiing information, and other services. It does all this with very little equipment in the plane, and with a television or "pictorial" means of presentation, a new concept in aircraft instrumentation which seems to answer the question of adapting the air machine to the human being. A com-

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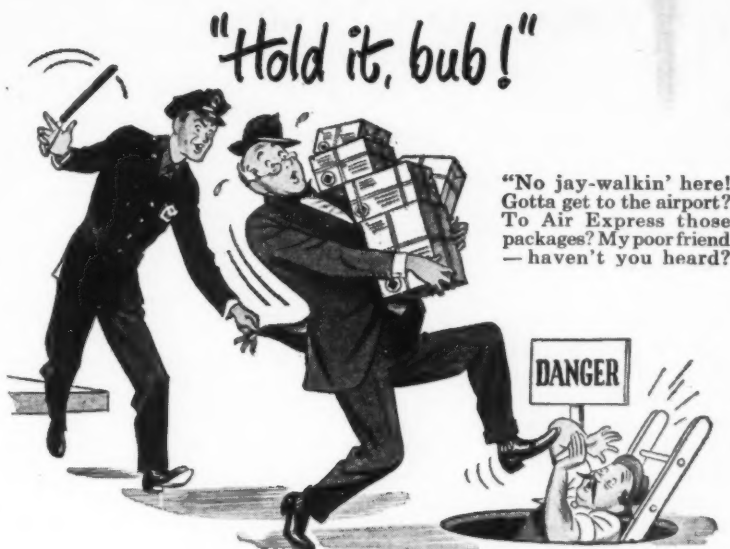
LOVE FIELD DALLAS 9, TEXAS

prehensive system of this nature has manifest advantages, but unfortunately does not appear to be available for general use for a number of years.

LONG-RANGE NAVIGATION, COMMONLY KNOWN AS LORAN. This is a modern electronic method of navigation by means of which navigators, on or over the sea or ground, can determine their position accurately and quickly through the medium of radio signals transmitted from stations of known position. An outstanding characteristic of the system is its ability to furnish positions to navigators at great distances from the transmitting stations. Under almost any kind of weather conditions the navigator can determine his position by Loran with an accuracy as great as may be normally expected from celestial observations.

When we take the long-range view, it becomes apparent that individual devices such as those briefly described here do not constitute a coordinated system for regularity in air transportation. New types of aircraft are being introduced, and there are increases in their maximum speeds. The complexity of the traffic control and all-weather flying problems is increasing daily. One test of an air-navigation system is its flexibility; that is, its capability of expansion with the growing needs of aviation and its ability to accommodate new types of aircraft as they make their appearance. Traffic-control methods, segregation of responsibilities between ground personnel and the efficient utilization of the already limited radio-frequency bands are further system aspects. In addition, the system must allow for the fact that the human being is an integral part of the overall system, that his reaction time and skill and other psychological characteristics are just as important in determining the operation and safety of the aircraft as are the characteristics of individual navigation devices. We need a system which coordinates into a minimum number of instruments all the functions required of air navigation,

(Continued on Page 63)



"Air Express picks up those packages right at your door here, and delivers at no extra cost. There's no waiting around, because Air Express goes on every flight of the Scheduled Airlines. No U.S. point is more than hours away!"

"And rates are low. Don't interrupt me—I said low. Why else do business men use Air Express to ship finished items, replacement parts and perishables regularly?"



Specify Air Express-World's Fastest Shipping Service

- Low rates—special pick-up and delivery in principal U.S. towns and cities at no extra cost.
- Moves on all flights of all Scheduled Airlines.
- Air-rail between 22,000 off-airline offices.

True case history: Machine parts made in Camden were needed in Chicago in a rush. 32-lb. package picked up the 28th at 10 A.M., delivered same day at 5 P.M. 669 miles, Air Express charge only \$6.88. Gave days more time to complete the job. Other weights, any distance, similarly inexpensive and fast. Just phone your local Air Express Division, Railway Express Agency, for fast shipping action.



Rates include pick-up and delivery door to door in all principal towns and cities

AIR EXPRESS, A SERVICE
OF RAILWAY EXPRESS
AGENCY AND THE

SCHEDULED AIRLINES OF THE U.S.

MARSHALL PLAN—(Continued from Page 21)

the pattern of ERP for Asia, Latin America, the Middle East and Indonesia, all of which are yet to appear on our altruistic horizon, publicly, for relief. But take it for granted, their claims have already been formulated, and are being kept on ice until the general pattern is more familiar to the country at large.

The broader program is acceptable to both groups. The first group regards it as a sound expansion of the opportunities for the export of the products of our primary industries. The second group regards the addition to the program as a logical expression of its particular objective. This group very earnestly feels that we must help all the world. It is less concerned with the economic benefits that flow to our primary industries than it is with amelioration of the living standards of the rest of the earth. It appears to think an ERP for the globe—Earth Relief Program—will make life better for others, everywhere, even if it temporarily reduces the standards of our living. In the State Department documentation supporting the Marshall Plan there are these words:

"It was assumed that the American people regard a program designed to reactivate one of the most important economic areas in the world as worthy of some short-term sacrifices chiefly in terms of immediate goods and services. If the American people wholeheartedly accept a program of assistance, adequate as to amounts and as to time required, to enable the European peoples to regain their economic independence, some retardation in our rising standards of living can be expected, and will be endured."—From *Commodity Reports Including Manpower*, the Introduction, p. IV, issued by the State Department, Jan. 5, 1948.

There is still another group, not particularly identified with the State Department but identified with many different interests and agencies in Washington, who say: "Why isn't it possible to establish a Committee of African Economic Cooperation, of Asiatic Economic Cooperation, of Pacific Economic Cooperation, cooperative economic committees in every region of the world, who could do for their specific areas what the Committee for European Economic Cooperation has done to gather the data to make the aid plan for the 16 Western European countries? They could unite as a Global Economic Committee for Cooperation, and set up the machinery to inventory the resources, the facilities and the services of each region, and budget their distribution according to global needs. They would undoubtedly be able to regulate export and import, exchange, and the distribution of manpower according to geographical and social needs. There would be little difficulty in organizing the operation of such a program as a five-year plan. It might be an answer to the chaos that appears ahead, and it might be a permanent answer to the problem as to what is to become of this world, if it has no orderly plan, in a global sense."

Henry J. Taylor, author and economist, who made a five thousand mile automobile trip, probing the grass roots of Europe in England, France, Italy, Greece, Switzerland, Belgium, Holland and Germany, was opposed to the Marshall Plan in his testimony before the Senate Foreign Relations Committee:

"An unfavorable balance of trade in the 16 countries of Western Europe has been a fixed condition for nearly 50 years. Before the war these countries imported about 6.6 billion dollars worth of goods and commodities annually, and exported only 4.6 billion. A balance was attained by income

from foreign investments most of which were permanently liquidated before the war, and other invisible balances. The normal expectancy is that even under this [Marshall] plan there will be the same two billion dollar deficit as prewar, and as extending back for a period of 50 years. This draft legislation submitted by the State Department actually becomes more a proposal for 'stop-gap' (simply extended over a longer period of time) than a potential solution to the degree that may be supposed. . . . We should look back and see what has already been spent—or mis-spent—some 22 billion dollars since the war. In 1945 we were told the world's economic problems would be solved by an International Bank costing America 635 million dollars, and an International Fund costing America 2.7 billion dollars. We were told loans to Great Britain would not be necessary. However, soon we were confronted by new demands for a stop-gap loan of four billion dollars to Great Britain. What has happened to that loan? It has gone down the drain. Has Britain been saved? Has the world been saved? We furnished another three billion dollars to the Export-Import Bank. Another three billion was drained into the darkness and confusion of UNRRA, and I might add, via UNRRA into the darkness and confusion of the Soviet Union and Russia's puppet states. These and other items—eight of them—since V-E Day, May, 1945, total more than 22 billion dollars.

"In Europe, in the infinite and inexpressible pathos of this day, you find a mysterious complacency about whether our new billions will be sent. In official circles over there you gather a settled feeling that we are going to end up by sending it away, largely regardless of what they may do for themselves. It is a sort of an 'Oh, you Americans will talk awhile, and maybe complain, but in the end you'll deliver' attitude. You may remember the recent 'stop-gap' aid for France and Italy, 685 billion dollars. Of this sum, 80 million had been included for balance of debt payments between France

and Belgium, another 20 million for an old debt France owed England, and finally another 15 million which also was for an old debt. Undersecretary of State Lovett testified before the Senate Committee that these items, totaling over 115 million dollars, a quarter of the entire sum the French asked as a 'stop-gap,' had nothing whatever to do with urgent needs for 'food, fuel, fertilizer.' Not the life or health or well being of a single Frenchman was at stake, and none of it could be classified as an 'anti-communist effort' of any kind. It was straight paper padding—marked urgent.

"The real trouble with our aid program is that we are fooling ourselves about what happens to our substance when it gets overseas. The cost of additional foreign aid is frequently described to us as two or three percent of our average national production; this, I am sorry to say, is a misleading presentation of the facts. There are great differences in the depths of the shortages involved. Is the demand for freight cars two or three percent of our production? Well, hardly. The demand for wheat is 30 percent of our annual production. Is the demand for steel two or three percent? Oh no; I can tell you 50 percent of all the steel we now send over there goes into new shipping.

"What will this cost us? I don't know. I do know our country is now being taxed by local, state, and federal governments at the rate of a billion dollars a week—52 billion dollars in taxes collected last year. Taxes now cost about 30 percent of the national income; and if there is anything more dangerous than that, I don't know what it is."

The report on ERP prepared by the State Department consists of twelve separately bound sections, together with many thick volumes of special actuarial studies of prospective exports and imports in relation to the 16 Western European countries connected with the Marshall Plan. The commodity reports concern food and agriculture, fertilizer, agricultural machinery, coal, coal mining machinery,

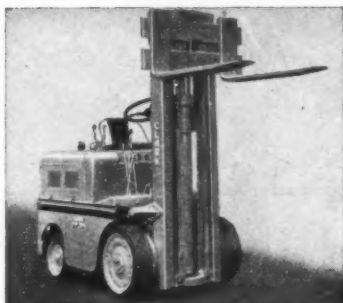
(Continued on Page 90)

MATERIAL HANDLING *News*

TIERING HEIGHT 130" COLLAPSED HEIGHT 83" FREE LIFT 62"

That "free lift 62 inches" is the vital specification of HI-LO-STACK, Clark's new high-lift, low-clearance attachment. It means that the forks can be raised 62 inches from the floor before there is any increase in the overall height of the machine.

With this high-lift, low-clearance attachment, a Clark fork truck can take material through a freight car door and tier loads to the car roof, as well as tier loads rafter-high in the warehouse.



This is the CLARK HI-LO-STACK... combines high lift and low clearance



83 INCHES OVERALL HEIGHT, FORKS LOWERED | NO CHANGE IN OVERALL HEIGHT WITH "FREE-LIFT" OF FORKS UP TO 62 INCHES | UP-TO 130 INCHES—22 INCHES ADDITIONAL LIFT FOR EXTRA HIGH TIERING

You recognize instantly the practical benefits of the HI-LO-STACK—it enables a fork truck to take a load through the 7-foot door of a box-car and tier loads to the roof of the car, or to tier unit loads to the rafters in the warehouse. Heretofore, with conventional lift mechanisms, the increasing height of the vehicle made it impossible for the same machine to perform all these operations; making it necessary, in many handling operations, to use two machines—one for loading and unloading cars and another for high tiering in the warehouse.

Also HI-LO-STACK is an exceedingly simple mechanism. It has only one lift cylinder, and a single set of uprights with slide members inside. Lifting is accomplished with unusually low hydraulic pressure, which minimizes possibility of leakage.

It adds up that HI-LO-STACK is a typical Clark development—sturdily built, simple as can be, a thoroughly dependable unit; a good example of the sound engineering and incomparably rich knowledge of handling operations for which Industry looks to Clark. Write for particulars.

CLARK GAS AND ELECTRIC POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS



CLARK EQUIPMENT COMPANY, TRACTOR DIVISION, BATTLE CREEK 21, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

California Eastern's NEW COMMUNICATION SYSTEM



- Cuts coast-to-coast air delivery time
- Reduces billing errors
- Eliminates destination delays
- Speeds ground services
- Provides improved shippers' information

By ALLAN A. BARRIE Vice President-Operations, California Eastern Airways, Inc.

About the Author

Allan A. Barrie, vice president, operations of California Eastern Airways, Inc., is a veteran of more than 18 years of executive pilot assignments. An airline pilot with more than 13,000 flying hours, Barrie was vice president, operations of Western Air Lines prior to the war. During World War II, he served as a Colonel in the Army Air Forces, Assistant Chief of Staff, Operations of the Ferrying Division of the Air Transport Command, directing the actions of 25,000 men who were transporting personnel and matériel in scheduled service totaling more than 34,000 hours flying time per month in the United States. He was awarded the Legion of Merit for outstanding war service. Barrie joined California Eastern Airways shortly after the inauguration of service in the spring of 1946.

SINCE the early days of aviation, communications has played a vital role in the ever continuing project of speeding and improving air transportation service.

It was with this fact uppermost in mind that California Eastern Airways and Pacific Telephone & Telegraph Co. experts went into a conference a year ago. Out of that initial get-together and subsequent meetings and investigations, we have developed a new communications system which already has achieved the following progress in California Eastern's overnight coast to coast air freight service:

1. Slashed a full hour from the

elapsed time of each coast to coast flight by eliminating delays formerly caused by necessity of air-billing prior to plane departure. Time saved will total more than 1,054 hours a year under our present schedule of two transcontinental flights daily.

2. Greatly improved service to shippers through procedure which enables us to give them advance information on shipments enroute and exact time of plane arrival.

3. Operates a fleet of four-engine aircraft at highest schedule efficiency in company history.

4. Reduced billing errors to all-time low through elimination of the pressure of time problem. Air-bills now are transmitted after departure of plane, instead of before, as required by previous procedure in which aircraft was held until all billing was completed.

5. Enabled all stations to have detailed load information prior to arrival of plane, which allows personnel to mobilize exact amount and type of ground transportation equipment required. Previously, this cargo information was transmitted by pilot pouch and consequently was not available until the plane arrived.

6. Through receiving full load data, enables operations department to give definite advance information to the sales department

with regard to special shipments.

7. Eliminates problem of freight being held at destination station for lack of airbill or airbilling information.

8. Enables originating stations to have closer check on outbound shipments.

9. Eliminates delays in dispatching delivery trucks.

10. Effects closer coordination between all departments, all stations, and home office.

Basically, our new communications system is a private line typewriter service to which we have added a number of improvements to meet the special needs of fast, long haul air freight service. This is the first time that such a system has been used to carry on the rush communications in connection with the varying activities of air cargo operations, and we believe its development is a major step forward in air freight service.

Now in 24-hour operation linking our seven stations, Oakland, (the home office), New York (Newark Airport), Cleveland, Chicago, St. Louis, Denver, and Los Angeles (Burbank Airport), the system replaces one which employed timed wire service (TWX) supplemented by long distance telephone calls. The monthly charge for the new system runs about 50 percent more than the average for the previous

system, but the increased cost is more than offset by the improved service to shippers and the man-hour savings it makes possible for the various departments and stations. Also, the TWX charges and long distance telephone tolls were mounting and it was indicated they would soon approximate or pass the fixed charge for the leased teletypewriter service.

Turning back to the first conference of the experts, the initial step was a complete and exhaustive survey of our problems and communications needs. At that time, a year ago, we had flown some five million ton-miles and had amassed a fund of valuable information on problems involving the communications setup. A considerable part of that information was received from company personnel in the form of suggested solutions to the problems. In the study, we found that the procedure of airbilling prior to plane departure was causing an average of one hour delay per flight schedule. Most of this delay was taking place at the major originating stations on the two coasts, New York, Los Angeles, San Francisco-Oakland, where up to 18,000 lb. of cargo, in innumerable packages, was arriving at the terminals shortly before scheduled departure time, and it was a physical impossibility for the station personnel to complete the air-billing on time. In their anxiety to meet schedule, they did the paperwork at top speed which caused billing errors and subsequent complications throughout the system.

In checking our operations record, we found the delays were causing us to miss critical flower delivery times at St. Louis and Chicago, and first-day delivery connections at the coast terminals. Another thing we discovered was that operations were suffering from individual efforts to reduce the timed wired service charges. In short, the messages were too brief and the personnel involved were not being provided with sufficient information. On too many occasions they had to use the long distance phone to fill in the gaps.

A major problem was found at the destination or off-load stations.



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Fruit and vegetables reach our tables dew-fresh, thanks to today's modern materials handling equipment. A typical example is the Food Machinery Clamp Truck equipped with Aerol lifetime wheels that is enabling Hall-Haas & Vessey, Ltd. to handle produce faster and at less cost.

Aerol wheels are sturdy, light weight and require no servicing... they are equipped with Timken Tapered Roller Bearings that are factory lubricated and sealed for their normal life. During the time Aerol-equipped trucks have been used by Hall-Haas & Vessey, Ltd., not one Aerol wheel has been pulled for servicing. Where minutes mean money, Aerol wheels can be depended upon to deliver top performance.

Ask your distributor how Aerol Wheels and Casters can turn your wasted minutes into profits.

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MODERN MATERIALS HANDLING EQUIPMENT



NO WHEEL ROLLS LIKE  AN AEROL

GUARANTEED 20% EASIER ROLLABILITY

Under the original procedure, which required the airbill to accompany the cargo, destination station personnel had no advance knowledge concerning how much and what kind of cargo the inbound Freightmaster plane was bringing them. Consequently, unless they made a long distance phone call, they were at a loss as to what ground equipment would be needed. This situation was common throughout the air freight industry.

The second step was a study of communications systems used by other means of transportation, particularly those handling large volumes of freight.

When step number two was completed, we compiled all information gained to date in a report and submitted it to the various departments with a request for recommendations. The unanimous decision was to install the private line teletypewriter system, with special equipment and procedures to meet the needs of our long haul air freight service.

One of the top recommendations was that the communication system provide a means of expediting air-billing. This problem was turned over to George P. Pell, director of ground operations, Hal Garbett, assistant director, and Glen Tomlin, chief dispatcher, to work out with the accounting and sales departments and station managers. In developing procedures they were instructed to strive for simplicity, and they achieved outstanding success in this mission. In this and all other phases of our communications project, the telephone company experts contributed much helpful advice.

The combined result of all of this development work is, as our manual describes it, "a fast, economical, confidential and accurate communications system for the exclusive use of California Eastern Airways, Inc." The system provides instant selective or all-points teletypewriter communication with our seven transcontinental stations and has an added feature which permits pre-cutting the message on a special tape. Personnel are required to pre-cut messages prior to transmittal, when time permits. This

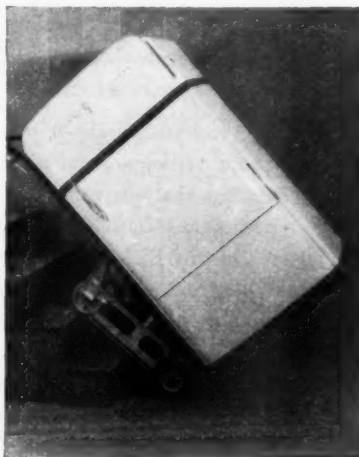
provides a record of the communication and gains maximum efficiency from the circuit as the tape sends the message at top speed.

The airbilling by teletypewriter is one of the unique features of the system and a brief description of a sample operation may better describe the advantages.

Under this new system the cargo is assembled at an originating station and the only paperwork which must be completed prior to the plane's departure is a load manifest that lists the weights and number of pieces to be off-loaded at each station. This is quickly completed and the plane departs on schedule.

After the aircraft has departed and while it is enroute to the first station, the originating station's billing clerk does the airbilling, pre-cutting it on the special tape. In our long haul service, the enroute time between stations ranges from two and a half to five hours, according to the particular leg of the transcontinental flight, so pressure of time is no longer a problem in airbilling.

In carrying out this detail, the billing clerk follows the sequence of a billing form we have devised and with which all stations are supplied. The sequence includes



Crawler Cart

The Menne Co.'s new Crawler Cart, a 60-lb. aluminum alloy hand truck with a caterpillar crawler action for going up or down stairs, carries up to 1,000 lb. and has a safety belt brake for stopping on stairs or the flat.

the following: name of consignee and address, consignor and address, beyond routing, service requested (door to door, airport to airport, etc.), collect or prepaid, declared value, number of pieces, weights, rate, freight charge, trucking charge, excess value, tax and all other pertinent information.

When the billing is completed on the tape, the originating station clerk calls the destination stations in order, alerts them to place the billing forms in their teletypewriters at the proper time and presto! the airbills are transmitted. Seven copies of the airbill are cut by the destination station, which is sufficient for all departments and parties concerned. The airbilling while the plane is enroute gives each station full information on cargo to be off-loaded. From this information, the station managers can figure how many and what type of trucks and any other special handling equipment he will need and what time it will be needed. An additional and important service we are now able to perform is notifying consignees of shipments about to arrive, so they can make the necessary preparations to receive the cargo.

Primarily, the communications system is for operations purposes and for that reason a priority schedule has been established. To prevent congestion, control of the entire circuit rests with the chief dispatcher at Oakland and the following order of priority is enforced: (1) emergencies dealing with aircraft, (2) dispatch of flights, (3) operation of flights, (4) airbill messages, (5) estimated operations forecast, including extra trips and contemplated irregular operations, (6) other messages.

All personnel have been advised that the new system is a fast means of communication, but that it cannot be expected to carry on the entire correspondence of California Eastern Airways, Inc. When a letter will suffice, they are advised to communicate by that means.

Operation of the new system is being closely watched by all departments with a view of initiating new procedures that will further improve and speed our air freight service.

TRUCKING TRENDS

(Continued from Page 42)

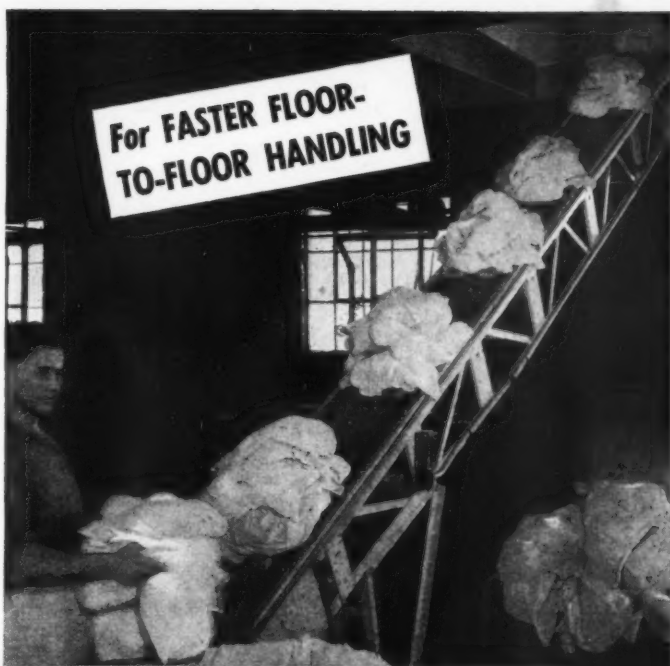
panding market for all business. Since the 1940 census, population has increased by more than 13 million, or the equivalent of all the people living in the three Pacific Coast states of California, Oregon and Washington. To put the comparison closer to home, that increase is 3 million more than the total population of the great state of Pennsylvania in 1940.

More babies mean more business. Mounting birth rate means more mouths to feed, more human beings to be clothed, housed, entertained, and introduced to all of the goods and services available in our high-standard-of-living economy. Not only has there been an unexpected increase in the projected population total since the last census, but the experts expect a similar boost in population from now to the late 1950's.

We think this figure is especially significant for our trucking industry because, as noted, it is an expanding industry, getting a larger and larger share of the hauling business with the passage of time.

On the liability side of the ledger there are many vexatious problems. Many of our problems are those common to all business. I should like to bypass most of them and concentrate upon one—the present problem of traffic congestion and the one we fear lies ahead.

I want to make passing reference to one aspect of our troubles as businessmen which I know is shared by all. I refer to the mounting cost of doing business and the perplexing problem of the relationship between costs and prices. Transportation costs enter into the pricing of everything in our economy to a greater or less degree. So it has become the custom of some economists to lay blame for spiraling prices on transport costs, to an extent which is completely unjustified. An econ-



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WHETHER it's bags, bales, boxes, bundles, cartons . . . whether you stack, pile, move, load or unload . . . Farquhar Freight Conveyors can cut your handling costs! Built to "take it," flexible Farquhar Conveyors make your packaged materials flow faster, more economically!

Top illustration shows how Farquhar freight model speeds up floor-to-floor handling in laundry plant — carrying laundry bundles from delivery trucks to second floor.

Bottom illustration shows how a North Carolina plant eliminated "dead" storage space with the installation of Farquhar Freight Conveyor. Hundred pound bags of cotton seed meal are now piled higher, faster, easier—in places never before possible with hand labor.

Farquhar has the right materials handling conveyor for your job, too! Tell us your handling problem; we'll give you the information you need. Write: A. B. Farquhar Company, Conveyor Division, 203 Duke St., York, Pa., or 614 W. Elm St., Chicago 10, Ill.

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omist is reputed to be a man with a Phi Beta Kappa key in the middle of his watch chain, and no watch on the end of it. However that may be, we heard much of this kind of talk, blaming transportation for an important part of spiraling prices, particularly at the time when the rails were applying for rate increases. Our studies prove this false.

A dollar buys more, relatively, when it is spent for truck transportation today, than for almost anything else. Actually truck rates have gone up only 30 percent since 1939. During the same period, the general price level increased 81.5 percent. *And the price of agricultural products jumped 116 percent.*

Our rate level moved up much slower than our costs. For example, our wages increased 56.5 percent between 1941 and 1946 . . . and wages make up half our expenses. In the same period there was an increase of 84 percent in the per-mile cost of our tires and tubes, a 68 percent increase in insurance and safety expense per-mile because of inexperienced workers and inferior packing materials, and a 75 percent increase in the cost per-mile for repairs to equipment.

So our profits were lean during the years when most business was making the greatest earnings record in history. Some of our operators actually suffered substantial losses, particularly in 1945. It is not our custom to weep on the public's shoulder. We try to keep our troubles within our industry, on the theory that other folks have their own headaches, and don't care to hear about ours. But when the public learned that we were doing nearly twice the amount of business we did pre-war, I am sure that they believed we were earning at least twice as much profit as in pre-war years. That's why I mention the fact that, far from record earnings, the record tonnage produced record losses for many operators and the lowest overall earnings in many years for the industry. The picture is somewhat better today but still not healthy, especially in view

of the still mounting cost of operation.

We started to work on the problem of city traffic congestion some years ago, in conjunction with other groups and agencies. I think the term "hardening of the traffic arteries" was first promoted in one of our advertisements urging shippers to study their need for off-street loading and unloading facilities. We are still far from knowing the answer—if there is any one, single answer.

In all the discussion now prevalent about traffic congestion, much of it concerned with truck operation, few people seem to realize the dependence of other forms of transport upon trucks. There is a marked tendency to think of trucks as a separate function. Actually, every railroad entering every big city in the country, every steamship and every airline, is completely dependent upon trucks to fulfill its contracts with shippers for an important portion of its tonnage. Of much of the nation's goods, it can be well said that no matter how it is shipped, it still begins or ends on a truck.

In a general way, I am sure that the public now recognizes the complete impossibility of operating a modern city without truck transportation. New York is not only our biggest city, but everything it does and has is the biggest. Its buildings are bigger, its stores, restaurants and theaters are bigger—and it doesn't do too badly on snowstorms either.

To confirm this recognition of the importance of trucks I might quote from *Life Magazine* of January 5, which reported, under a picture of snow-blocked streets, this penetrating truth about our industry: "Yet the most amazing thing of all was the storm's dramatic lesson on how the city depends upon truck transportation. For awhile it was almost impossible in many sections to buy a newspaper, a loaf of bread or a bottle of milk. Delivery of coal and fuel oil stopped and scores of houses and apartment buildings went without heat."

If New York's buildings and

snowstorms are bigger, so is its traffic jam. That's what I should like to discuss. Unless definite and carefully planned action is taken, the problem will continue to get worse and worse. The American Road Builders' Assn. has estimated there will be a 35 percent increase in traffic by 1950 and warns that "high tax, revenue-producing areas of our major cities are experiencing a hardening of their traffic arteries that is putting their economic future in jeopardy."

Such congestion not only inconveniences business, but it is very costly. The Road Builders' Assn., discussing this, urges that shippers and retailers work with motor carriers to "reduce time-wasting traffic congestion and effect economies in central business district deliveries."

"Where alleys are not adequate," the report states, "which is the rule rather than the exception, loading and unloading at retail stores and markets is a source of traffic congestion. Many stores claim that even a restriction as to the time of loading and unloading of trucks imposed a confiscatory hardship on them.

"That it is necessary to provide for truck loading and unloading on the streets if alleys are inadequate or non-existent, goes without saying, because the traffic in goods thus moved is the basis of business activity. Central business districts of cities and towns cannot live without trucks any more than without other forms of transportation."

It is interesting to examine the causes of this traffic congestion. First and foremost I think we must pay attention to the revolution in merchandising brought about by truck transportation. To a great extent we have many of the same buildings lining the streets of our downtown sections that we had 20 and 30 years ago. But they operate differently. Formerly many of these business houses were a combination store and storage operation. They required substantial floor space and cubic content for the goods and products they sold. Development of truck transportation made it

possible to devote the absolute maximum to selling and service space. Goods to be sold were stored outside these congested districts and brought in with great dispatch by truck. We all know buying habits of business changed, too, when truck transport came along. Back before trucks, business houses had to buy well in advance. Today they follow the price market and buy hand to mouth. Trucks deliver overnight.

Don't ever forget that much of our traffic congestion can be traced to this merchandising revolution which was based on the speed and flexibility of truck transport. And let's not forget either, that this way of doing business is being threatened every time anything, whether it be a city ordinance or a traffic jam, curtails or prevents truck delivery. That's a key point in this whole problem.

Among the many suggestions always advanced when this subject comes up and which are directed to curtailing and restricting truck transportation, the line of thinking seems to go like this: "Our streets are blocked by cars, buses, taxicabs, street cars and trucks. All right. We don't ride in trucks. Let's bar the trucks or at least let's keep them off the streets during certain hours."

I think it is only fair to ask "Why trucks?" Why not rule off passenger cars? Which is more important—a truck carrying food which will feed several hundred people or a passenger car carrying one man to a parking spot near his office? Anyone can answer that one for himself.

I am not suggesting that any kind of vehicles be barred from any streets at any time. Streets were made for vehicular traffic, and it's up to all of us to figure out how we can keep vehicles moving on them. I am merely trying to highlight the fallacy of these quick and "easy" solutions.

The so-called idea of night-time deliveries is another one of these quickie solutions. Few persons have ever given sufficient study to the subject when they advocate night-time deliveries.

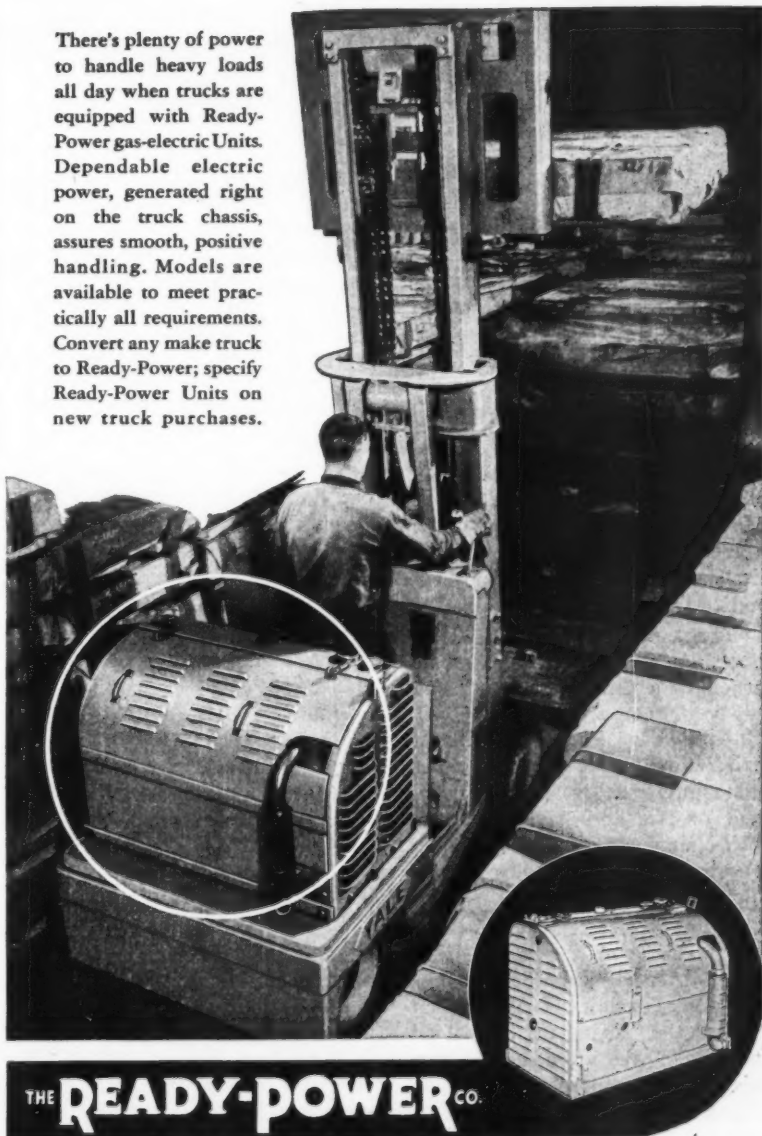
(Continued on Page 80)

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LOSS AND DAMAGE CLAIMS



Jack McCormack, free lance traffic manager, discusses the authority of the ICC in the matter of loss and damage claims which are now running well over a hundred million dollars a year.

By HENRY G. ELWELL
Traffic Consultant

WHEN Jack McCormack, free lance traffic manager, opened the volume of Interstate Commerce Commission decisions he quoted aloud from 52 I. C. C. 47: "The Commission has no jurisdiction over loss and damage claims as such . . ."

He paused and looked at Harry Miller, treasurer of the National Mfg. Co. Miller shrugged his shoulders, but made no comment.

Picking up another book Jack rapidly leafed through it. "Commissions jurisdiction does not extend to loss and damage claims."

"That citation is from 255 I. C. C. 288," McCormack said, as he turned to a third volume. "And here's another from 61 I. C. C. 120—the commission is without jurisdiction . . . to prescribe rules and regulations governing settlement of loss and damage claims. Such claims and measures of damage applicable thereto are cognizable only in the courts."

Sunlight gleamed on McCormack's desk as he and Miller argued over the handling of loss and damage claims. Miller had started the argument. He had maintained that the commission held authority in relation to such

claims. Now he was somewhat chagrined.

"From those statements," he conceded, "it appears as if I have been mistaken."

"Seems so," McCormack replied, "but in case you are still doubtful listen to this from 6 I. C. C. 85." Jack then read the following: "In cases of loss the shipper's remedy is at law, and the question of . . . the carrier's liability is to be determined in the courts on the facts in each case."

"In other words," McCormack added, "whether complainants may recover for loss and damage is not for the commission to determine."¹

"Where did I get the idea that complaints relating to loss and damage claims could be filed with the Interstate Commerce Commission?" Miller questioned.

"Probably you confused them with overcharge claims," McCormack stated. "Where rates and charges are involved the commission does have power. An overcharge arises when a carrier collects a charge which is higher than that accorded by the tariff lawfully on file. Then, too, the commission has jurisdiction over practices of carriers and tariff

rules which in any way affect loss and damage claims, as affirmed in 52 I. C. C. 47."

At this stage Tom Fleming, the production manager of National, walked in and exclaimed: "I've been standing in the doorway and heard a portion of your discussion. Now I'd like to get into it. Maybe Jack can answer my question."

"I'll try," McCormack said.

"It's this way," Fleming said. "We instructed the railroad to place an empty freight car on our private siding. We then loaded and sealed the car. While it was in transit, in the possession of the carrier, the shipment was damaged. At least, when the car was opened at destination, the contents were in bad shape. A claim was filed. I understand that the railroad has refused payment on the basis that we improperly loaded the car. What I'd like to know is this: How can the railroad refuse to pay our claim by alleging defective loading and should we present a complaint to the commission, or file suit in a court?"

"First," McCormack answered, "let's take the last item of your query. The matter would have to be brought before a court. The situation relates purely to loss and/or damage. Therefore, the

(Continued on Page 89)

Author's Note: Names of persons and companies are fictitious.

¹ See 208 I. C. C. 669.

BARGE PROBLEMS

(Continued from Page 33)

that when a steam-powered tug is temporarily caught in a deeply frozen ice channel, it is difficult or impossible to get a sufficient water flow for the steam engine to function properly. Another important advantage of diesel power, versus steam power, is the fact that diesel power makes a considerably smaller operating crew possible. This fact reduces operating costs and also makes possible more compact crew quarters on the newer type of diesel tug boat.

The general public and even some industrial traffic managers do not realize what tremendous bulk tonnages a large river towboat can handle under normal operating conditions. Such vessel normally will handle tows of 8 to 20 or more loaded barges; and each of the barges has bulk and weight capacity equal to a full-length rail freight train.

Another special reason for the present relatively small percentage of packaged freight on waterways barges is related to wartime shipping services and habits. The government then had taken over the services of practically all waterways shipping craft on the Great Lakes and the Mississippi River and tributaries. Then traffic managers who had been making some previous use of waterways shipping were automatically forced to shift to other available forms of transportation, namely, to the rails and trucks. Also during the more recent postwar period, and even up to the present time, the supply shortages in many commodities and the recent trend toward smaller inventories and more rapid distribution turnovers, undoubtedly has been a powerful factor in encouraging some traffic managers to continue to rely mostly on the more rapid shipment deliveries available via rail and truck, even though possibly somewhat more costly as compared with waterway transportation.

Another very important cost factor in waterway shipping costs



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which traffic managers always must consider is the terminal handling charges. It is generally known that at many of the public and private docks for waterways shipping, handling methods and costs for all bulk commodities have been developed to a very high efficiency. These bulk commodities especially include coal, petroleum products, sand and gravel, sulphur, iron ore, cement, grain, newsprint paper and also automobiles.

However, it is generally known that at some of the waterways terminals of cities along the Mississippi and tributaries, handling methods for packaged goods are still far below the efficiency standards that have been developed for bulk commodities. One of the improvements that may be expected in the transportation of packaged goods will be more general pallet handling and unit-load handling through the use of fork lifts.

One of the Mississippi River shipping improvements for packaged freight being promoted by the Federal Barge Lines is the use of a large new shipping container. The size and dimensions have been so planned that six of these containers can be loaded side by side on a standard rail flat car. The new container is also being tested out in export shipping. The container is made of light-weight sheet steel with upright corrugations to add resistance strength. It has outside dimensions of 7 ft. 9 in. long by 6 ft. 5 in. wide; and it is 6 ft. 10½ in. high, with the four corner legs folded back. The inside dimensions of the container are only slightly less. The container has a size capacity of 277 cu. ft., and a weight load capacity of 6 tons, and is tested to 7½ tons. The weight of a container unloaded is 1600 to 1700 lbs. It was recently reported that the Federal Barge Lines had been using the new container for about three months. About 125 containers were then in use, and they expected soon to have 200 in use.

In addition to this development, the Federal Barge Lines, operated by Inland Waterways Corp., has been engaged in research looking to the improvement of floating equipment through the construc-

tion of a "more integrated tow unit." The assembled integrated tow unit used in the tests has been described as a "one power unit (tow boat), six cargo barges, one bow and piece and one extra end piece for use at the stern end of the tow in case the tow is handled with a conventional type tow boat." Preliminary reports have indicated that "the resistance through the water on the integrated tow to be approximately 22 percent less than the conventional type tow, in spite of the fact that the conventional tow (against which it was tested) was favorably arranged, (strung out, 4 barges and tow-boat end to end), for the very best results."

A question much debated along the Mississippi River, is how long the Federal Barge Lines might continue to operate as a government agency. At its recent 29th annual convention in St. Louis, the Mississippi Valley Assn. went on record in a resolution stating that "the association recommends the abolishment of the Federal Barge Lines only when private interests are willing and able to care for the water transportation needs of the communities of the entire Mississippi Valley, as provided in the original Organic Act creating the Federal Barge Lines."

This convention also endorsed the Calumet Sag Project which has been under development in the Chicago area for many years. It is expected that this project now will be speeded. If and when it is completed, it undoubtedly will be the most important recent step taken in Chicago toward modernizing barge terminal handling methods.

It was stated in a resolution by the Mississippi Valley Assn., at its recent St. Louis convention that "The Mississippi Valley Assn. urges the Congress to immediately appropriate adequate funds for the commencement of construction work on the Calumet Sag Project in the Chicago area, inasmuch as it is now apparent that funds for the local participation therein, as required by law, are available to a substantial extent, and the balance thereof assured."

STRAPPING

(Continued from Page 48)

to keep shipments from sliding or shifting. Although in many cases freight charges were assessed on the total weight of the shipment, including this dunnage, the shippers considered it a necessary factor in distribution costs. By the use of steel strapping on bulk shipments, loads are bound into large units which are free to shift slightly when the car stops and starts, thus eliminating violent contact between the load and either the car ends or the wooden blocking. This "floating load" method often reduces shocks in transit by 50 percent.

In loading and bracing shipments with strapping, the car is first "draped" with straps, then loaded, and the straps stretched and sealed so that the car load is in two (sometimes more) compact units. A space is left between all units, and between each unit and the car ends.

Shippers have instituted the use of steel strapping on a variety of commodities, in all fields of production and distribution, to facilitate and protect shipments in every conceivable type of container.

With our economy gradually developing into a sustained competitive state, it certainly behooves the shipper to "cut the corners" to save time and money in the final distribution of his product.

U. S. Exports

Sixteen and a half billion dollars worth of exports were sent from the United States in 1947, is the estimate of Dun & Bradstreet, based on Dept. of Commerce figures for the first ten months of the year. The chart and survey also points out that prior to 1942, with the advent of Lend-Lease, almost all exports were paid for by imports or gold. However, since that year, over 50 percent of all exports have been in the nature of loans and credits. Loans from the government, the International Bank, the Monetary Fund and the Export-Import Bank have enabled many countries to purchase goods from the U. S.

AIR CARGO

(Continued from Page 51)

and which presents adequate information to the crew in a manner far simpler and more natural than present day methods.

Transition to any new system of air navigation, its installation and adoption, must be smooth and economical. We must beware of extremes. If the new system were revolutionary, requiring its complete installation at all airports and in all aircraft before it could be used by anyone, if it instantly makes obsolete all previously installed equipment, transition to the new system will be difficult if not impossible. If, on the other hand, the new system is designed for the easiest possible transition, we will find ourselves back in the old method of piling device upon device, of taking little steps, each representing the easiest and cheapest choice at the time, but with the result that we finish with a greater total expenditure and with an inadequate system. There must be a path between the two extremes that is the proper one to follow.

CAB Okays Air Cargo, Inc.

Approval of Air Cargo, Inc., establishing the consolidated ground service organization for the certificated airlines of the United States, has been announced by the Civil Aeronautics Board. Under this interline agreement the participating carriers agree to utilize Air Cargo, Inc., for a number of activities in the transportation of air cargo, including:

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- Operation of ground transportation incidental to airline haul.
- Facilitation of joint interline movement of air cargo over the lines of member carriers.
- Arrangement for joint interline agreements and services with other common carriers for over-the-road hauls.
- Provision of ground operations at certain points.

This approval by the CAB was made subject to a condition that any holder of a certificate of public convenience and necessity issued by the board authorizing transportation of property should be permitted to participate in Air Cargo, Inc., as a matter of right. Such a proviso would allow specialized air cargo carriers, if and when certificated, to make use of Air Cargo, Inc., if they so desired.



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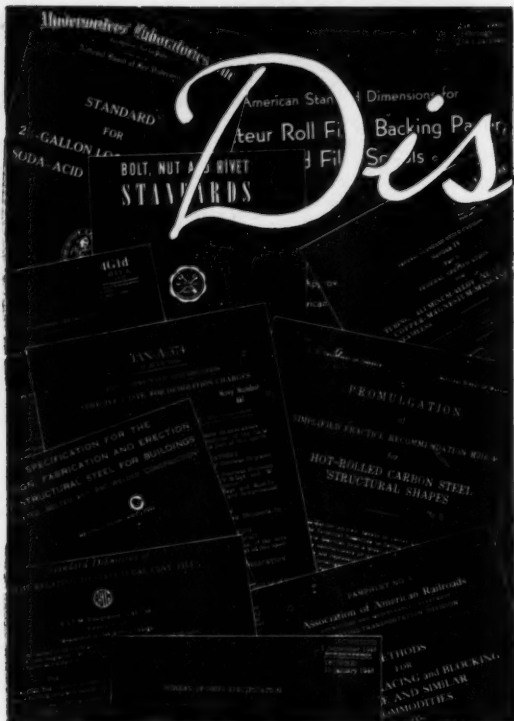
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Distribution STANDARDS & SPECIFICATIONS

By BENJAMIN MELNITSKY

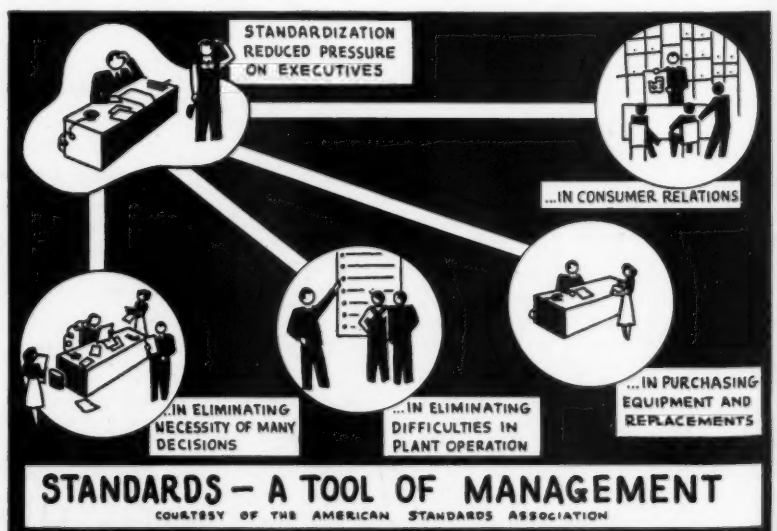
In this article, Mr. Melnitsky discusses how the voluntary standards so essential to our mass productive and distributive systems come into existence and the activities of the various agencies devoted to their promulgation and general acceptance.

WERE distribution pictured as a powerful giant, his shadow could justifiably be labeled "standards and specifications." For in reality almost every step in the physical movement of materials from primary producers to ultimate consumers is shadowed by standards and specifications. Obviously, standards are not as ethereal or nebulous as shadows. On the contrary, standards are tangible objects to be seen, touched, and put to practical use. One volume alone, "The Directory of Commodity Specifications," lists over 44,000 standards now in use. Merely lifting this one volume should serve to emphasize the reality and weightiness of the subject. Standards benefit not only their sponsors but all who are ready, willing, and able to reap the advantages of standardization. Standards and specifications are dynamic means for attaining maximum efficiency in distribution... such being the case, they warrant further consideration.

In this and subsequent articles, the whys and wherefores of standards in distribution will be examined. The first objective of this examination is the answer to:

WHAT ARE STANDARDS AND SPECIFICATIONS? *Standard* is well defined in Webster's Collegiate Dictionary as "that which is set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality . . . that which is established by authority, custom, or general consent as a model or example; criterion; test." *Specification* can be defined as a listing of means for

doing a task, producing a product, making tests, etc. When agreed upon by some organization or group of organizations, the specification becomes a standard. Together they transmit in concise language the studied opinion of many experts on such topics as: production means and methods; chemical, physical, and dimensional characteristics and tolerances of products and materials;



means of testing, sampling, and inspection; nomenclature, ordering data, safety requirements and simplification; performance and durability ratings and requirements. The advantages brought about by standardization are summarized effectively in the "American Standards Association Year Book" from which the following list is taken:

It enables buyer and seller to speak the same language, and makes it possible to compel competitive sellers to do likewise.

In thus putting vendors on an easily comparable basis, it promotes fairness in competition, both in domestic and foreign trade.

It lowers unit costs to the public by making mass production possible.

By simplifying the carrying of stock, it makes deliveries quicker and prices lower.

It decreases litigations and other factors tending to disorganize industry, the burden of which ultimately fall on the public.

It eliminates indecision both in production and utilization—a prolific cause of inefficiency and waste.

It stabilizes production and employment, by broadening the possible market, and by making it safe for the manufacturer to accumulate stock during periods of slack orders to an extent which would not be safe with an unstandardized product.

By focusing on essentials, it decreases selling expense, one of the serious problems of our economic system.

By concentrating on fewer lines, it enables more thought and energy to be put into designs, so that they will be more efficient and economical.

By bringing out the need of new facts in order to determine what is best, and to secure agreement on doubtful questions, it acts as a powerful stimulus to research and development.

It is one of the principal means of getting the results of research and development into actual use in industry.

It helps to eliminate practices which are merely the results of accident or tradition, and which impede development.

By concentration on essentials, and the consequent suppression of confusing elements intended merely for sales effect, it helps to base competition squarely upon efficiency in production and distribution and upon intrinsic merit of product.

It stabilizes employment by making possible production for stock during slack seasons.

WHO ESTABLISHES STANDARDS?

A standard can be established by an individual, by groups of individuals, by nations and groups of nations—in short, by anyone. In common with New Year's resolutions, standards can be propounded by one and all. If sufficiently motivated, the mailman who delivered this magazine could decide on a standard method for doing business which would entail reading all postal cards and steaming open all personal letters. It is to be doubted that such a standard would lead to excessive ad-

UN Standards

Before a luncheon sponsored by the National Institute of Governmental Purchasing, Fred A. Mapes spoke of his job as director of the United Nations Purchase and Supply Division. He told how standards and specifications play their vital role in UN procurement activities and he explained the operation of his Division's Standards Section. To illustrate the problems of standardization on an international scale, he told of one purchase requisition delivered to the Standards Section. As so many others, this requisition was in one of the many foreign languages in which UN business is transacted. The requisition was carefully translated into English and read: "one desk chair for typist with revolving seat." It is to be doubted that the UN Standards Section was even slightly phased by this rather unique standards problem. Doubtlessly a correct standard was discovered for when last heard from the Standards Section was still issuing standards and specifications and the United Nations was still reaping the benefits of standardization.—B. M.

vancement in the realms of Mr. Donaldson's U. S. Post Office Department; nonetheless, the ability to make the standard is present. It can not be overemphasized that standards are *not* limited to industry and commerce. Standards enter into every phase of human endeavor and environment. Restricting ourselves temporarily to industrial standards, we can trace their development, as is done below, through a fictionalized narrative which follows the genesis and growth of one fictional standard.

THE COMPANY STANDARD—The Nifty Toy Co. experienced considerable difficulty in handling a certain chemical which we shall call "Nitrolon." To protect workers from noxious fumes and to safeguard the plant from fire or explosion, the company developed a unique identification system wherein distinctive labels printed with fluorescent paint were attached to each Nitrolon container. The system was tried and found not to be lacking; consequently, the company decided that henceforth all Nitrolon would be so identified. Nifty executives decreed that a sheet detailing the complete identification process be printed and distributed throughout the plant. The printed sheet became the *standard* for identification of Nitrolon in the Nifty Toy Co. Actual examples of such company standards are to be found in many plants throughout the land for materials, parts, processes, and systems.

THE ASSOCIATION STANDARD—Fellow members of the Assn. of American Toy Producers were impressed by Nifty's excellent identification system and agreed that the system should be adopted throughout the industry. To facilitate such a move, the identification method was studied by the AATP Standards Committee and subsequently adopted as an official AATP standard. (Actual counterparts of AATP are the National Electrical Manufacturers' Assn., Scientific Apparatus Makers of America, Electric Hoist Manufacturers Assn., and many others.)

THE PRODUCER ASSOCIATION

STANDARD—At the annual convention of the Producers of Nitrolon Assn., it was proposed that the AATP identification standard be adopted. After considerable discussion and heated debate, the standard was included in the PNA Standard Code. (Actual counterparts of PNA are: American Iron and Steel Institute, American Petroleum Institute, Steel Founders' Assn., and other.)

GOVERNMENT STANDARDS—Many branches of the federal government purchased and used Nitrolon. Since all non-military, government procurement is standardized by the Federal Specifications Board, the subject of the Nitrolon standard was taken up by one of the Board's many technical committees, discussed and adopted, and in short order a federal specification on the subject was published. Several military branches of the government were also impressed by the system for identifying Nitrolon and each of these drew up and published its own standard.

THE NATIONAL STANDARD—At any stage in its development, the standard might have been placed before the American Standards Assn. for adoption as a national standard. The Nifty Toy Co., the AATP, the PNA, or any association, company, or individual could have proposed that ASA study the method for possible adoption. When ASA did so, it organized a committee on which all the groups concerned were invited to appoint representatives. Through the work of this committee they had an opportunity to present their viewpoints. Possibly some point in the standard adopted by the Assn. of American Toy Producers caused a hardship to the members of the Producers of Nitrolon Assn. In the ASA committee, this point was brought up and discussed, and undoubtedly some alternate method was devised that was satisfactory to both groups—as well as to the government representatives, safety groups, and others who may have been represented on the committee. Of course, ASA is not a fictional body; ASA is one of the few groups organized solely for the

purpose of providing machinery through which these groups could come together, discuss their problems, and agree on a standard that could truly be called a national standard—an "American Standard." It is the one standards group which represents this country in all international standards activities.

To complete the picture of standards—sponsoring agencies, note should be made of such engineering societies as the Society of Automotive Engineers, American Society of Mechanical Engineers, and the American Institute of Electrical Engineers; associations of public utilities such as the American Association of Railroads and the Electric Light and Power Group; associations of diverse interest groups whose purposes are indicated by their names, such as Underwriters' Laboratories, Inc., American Water Works Assn., National Safety Council, Manufacturers' Standardization Society of the Valve and Fittings Industry, as well as many others. Similar to ASA but more restricted in its activities is the American Society for

Testing Materials, whose major efforts are expended in developing standards for materials and testing.

HISTORY OF STANDARDS—Were this article on a sufficiently exalted plane, it could be propounded most pompously that the Nifty Toy Co. standard as well as all other standards discussed above have a common basis with religion, sociology, evolution, and metaphysics. Profound as it may be, the statement has a good deal of validity. Man himself demonstrates this graphically. Though many would deny it most passionately, it is rather obvious that men are made from more-or-less standard molds. The pigmentation may be different and the nuances of appearance may vary, but in general men are much the same. The freak, by being a living exception, proves the rule that man is a standard being. The fat lady in the circus sideshow is there for the one reason that she is non-standard. The basis for scientific development has been the standard forces in nature. Whether looking up the scale of the universe to the stars and the galaxies or down the scale to the atoms, protons, etc., the standard quality of nature defies denial.

It is interesting to note that from the cradle to the grave man is guided ceaselessly by established norms or standards. Parental standards dictate the consumption of unappetizing baby foods; moral standards temper man's desires; legal standards channel his actions. As the hands of the clock travel from 11 a.m. to 2 p.m., almost two billion people pause to partake of a mid-day meal. Sleeping, or waking, praying or playing, actively and passively, man is guided, directed, and regulated by standards.

It follows logically that the standards which are inherent in man himself are equally as inherent in his work and in the business and commerce he transacts.

During the long and relatively simple period of handicraft industry, standards were rudimentary and crude, occupying a posi-

(Continued on Page 88)

Standard Home Run??

Dan Parker, the widely syndicated sports columnist, recently asked: "When will baseball give some meaning to home run records by adopting a standard size field?" This is indeed a provocative question, one that most baseball fans have undoubtedly asked themselves time and time again. In certain ball parks, the bat boy would have little difficulty in "knocking one over the fence"; in other parks, the combined power of Babe Ruth, Joe Dimaggio, and a small jet-propelled rocket would be to no avail in sending the ball into the street. Yet, surprisingly enough, there is no dearth of baseball standards. In every major league park, the distance between first and third bases is always 127'—3 $\frac{3}{8}$ " : the pitcher's plate is always made of whitened rubber, always measures 6 in. x 24 in. over the top surface, and invariably is set into and flush with the ground and elevated not more than 15 in. above the base lines or home plate. The position of the players' bench to the number of square inches of wood used for home plate are standard.

Yet, the standards developed by the Joint Playing Rules Committee of the National and American Leagues are strangely silent on lengths of the various outfields. It would be interesting to see what would happen to many "home run kings" when they are deprived of their short right fields and their comfortably close center field fences.—B. M.

and far-reaching effects of the government's program to secure the active cooperation of industry and distribution in the organization of a peacetime reserve, the discussion of this topic was carried into the sessions of the Merchandise Division. The need for revision of our state laws on warehousing was discussed by E. E. Hesse, of the United States Cold Storage Corp., and chairman of the Committee on Warehouse Receipts and Warehousing Law. The warehouseman's interest in the disposition of government-owned surplus war-storage facilities was the theme of an address by L. J. Coughlin, New York, Chairman of the Committee on Disposal of Surplus War Storage Facilities.

The responsibility of industry in maintaining a healthy free enterprise was stressed by A. N. Otis, Merchants Refrigerating Co., New York, who delivered the principal address in the closing hours of the general session. If we are to keep Big Government from becoming Unlimited Government, Mr. Otis

stated, we must begin our construction efforts in our own warehouses, in our own business and in our own cities with our own personnel. In other words, he said, we must start at the local level in order to accomplish something at the national level. "We can all be sure," Mr. Otis said, "our own operations and plants are a credit to ourselves. Then they will be a credit to our industry. If the plants we already own are a credit to ourselves and our industry, we must then be honest in answering the question as to whether space in our community is sufficient. If needed, we should see to it among ourselves that additional construction is provided. If not needed, then we should intelligently and vigorously make this fact known. That is why both divisions of the AWA need the very best representation we can afford on our staff. We can stand any kind of competition better than government competition. The most costly way to do anything is to let the federal government do it for us."

In accepting the office of general president, Harlan J. Nissen said in part: "I sincerely feel that the warehouse industry in this country faces a strong challenge. This challenge cannot go unheeded because it has to do with our responsibility during a critical time in the welfare of the world—the responsibility of major aid in feeding the peoples of this and other nations.

"With the terrific necessity at this time of improved distribution methods in order to bring about world health and world peace, the warehouse industry occupies a significant position in our economy. Consequently, it is up to us to do everything possible in bringing about closer relationships and direct liaison with all related trade groups for the purpose of continually improved performance.

"I respectfully call on you for advice and suggestions, and I urge you to expand and increase your interests in your association whether it be the Merchandise Division or the National Association of Refrigerated Warehouses."

MERCHANDISE SESSIONS— (Continued from Page 28)

objectionable storage practices at carriers' docks . . . such as the granting of free storage and the providing of storage services at rates which are non-compensatory, discontinued, should be continued until successfully concluded."

The question of procuring for customs bonded warehouses the privileges attached to foreign-trade zones was discussed by J. Leo Cooke, Lehigh Warehouse & Transportation Co., Jersey City, chairman, committee on foreign-trade zones, and Jay Weil, Jr., Douglas Public Service Corp., New Orleans, chairman, committee on bonded warehouses. Mr. Cooke said: "We . . . introduced into the House of Representatives a bill known as the 'Rabin Bill' in November, 1945. It is urged that we not only be alert in our efforts to enact legislation which will assure the warehousemen of the

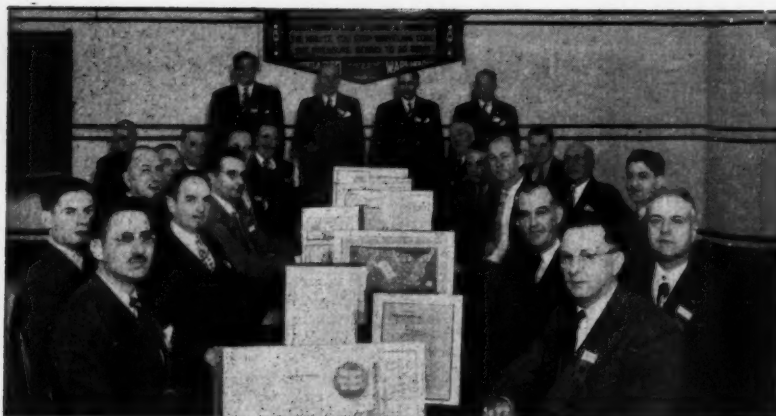
country the comparable benefits of present foreign-trade zone legislation, but to consider carefully and clearly the effects of proposed legislation now before the Committee on Ways and Means . . . introduced by Congressman Celler which would permit manufacturing in foreign-trade zones and which would provide the zone operators with other benefits, such as relieving them from part of the costs of maintaining customs guards."

The chairman of the committee on labor relations, W. W. Huggett of Chicago, spoke briefly on the second round of wage increases recently consummated, and the probability of a third round this spring. Following him, and speaking of the Taft-Hartley Act, was Robert G. Kelly, Counsellor-at-Law, of Philadelphia. His theme was that this much-discussed act was not ac-

tually an undiluted blessing to management, but was more an act to benefit the individual worker and to give him relief from unfair practices by unscrupulous union leaders. He presented several examples to show that management sometimes suffered, rather than benefited, from the act, and many questions from the floor showed the interest the topic engendered.

"If the law of supply and demand is any guide as to the future of construction costs, there is little likelihood of any substantial or enduring decline in the cost of building," John P. H. Perry, vice president, Turner Construction Co., stated in a joint paper by himself and Col. Clark C. Wright, Carr & Wright, Inc., architects, entitled, "The Trend toward One-Story Warehouses and Current

(Continued on Page 69)



Many current distribution problems were discussed at the Atlantic City meeting of Associated Warehouses, Inc.

Chain Meetings

Allied Distribution. Reelection of officers and the election of new directors at the meeting of Allied Distribution, Inc., held in Atlantic City, during the course of the AWA meeting resulted as follows: President, W. D. Leet, re-elected for the 15th consecutive year; vice president, Kent B. Stiles, New York; treasurer, F. D. Bateman, Chicago; secretary, Vera Watkins, Chicago. Directors were chosen as follows: R. E. Abernathy, Dallas; F. D. Bateman, Chicago; J. D. Beeler, Evansville; Thomas H. Duke, Jr., Jacksonville; Malcolm W. Lamb, San Francisco; James E. Wilson, Sr., Buffalo.

American Chain of Warehouses. The 37th annual meeting of the American Chain of Warehouses, Inc., at Atlantic City, Feb. 8, featured the spirit of cooperation manifested among members during 1947.

Gus K. Weatherred of Dallas, was elected president for the year 1948. Charles J. LaMothe, St.

Louis, was elected vice president; Willard A. Morse, Minneapolis, was re-elected treasurer and John W. Terreforte, New York, was re-elected executive secretary and assistant treasurer.

New members appointed by the board of governors to serve for a period of 3 years were: R. B. Young, Jr., Savannah; A. P. McNeal, Columbus; A. M. Burroughs, Denver; John Hyland, Hartford. Past president D. M. Liddle, Des Moines, will also serve on the board for the period of one year.

The board of governors for the year 1948 consist of the president, the vice president, the treasurer, new members and the following: D. S. Adams, Kansas City, Mo.; B. L. Bertel, Fargo; S. M. Haslett, Jr., San Francisco; John L. Keogh, Buffalo; D. M. Liddle, Des Moines; Jos. N. Pettit, Fort Wayne; R. M. Tyler, Portland Me.; J. D. Ullman, Peoria; W. J. Marshall continues as western manager at Chicago and

John W. Terreforte as eastern manager at New York.

The annual luncheon was served in the Rutland Room, Chalfonte-Haddon Hall, and attended by 60 members and guests.

Associated Warehouses, Inc. The 14th annual meeting of Associated Warehouses, Inc., was held at Atlantic City, Feb. 8-10 for a discussion of current distribution problems and chain policies for the ensuing year. The report of Clyde E. Phelps, executive secretary, discussed the association's expansion program which includes the construction of additional warehouses designed to offer complete branch warehouse service, including modern air-conditioned offices and display rooms. These buildings, Mr. Phelps stated, are to be completely mechanized to expedite the movement of spot warehouse stocks. The overall occupancy of warehouses was reported as 95 to 100 percent of capacity.

At this meeting, officers were elected as follows: president, E. A. Powers, executive vice president, Larkin Warehouses, Inc., Buffalo; vice president, Irving Culver, operating executive, Gibraltar Warehouse, San Francisco; treasurer, S. W. Brooks, vice president, Minneapolis Terminal Warehouse Co., Minneapolis; executive secretary, Clyde E. Phelps, Chicago. C. A. Webster continues as eastern manager in charge of the New York office.

Directors for 1948 are as follows: Robert R. Lester, Kansas City; C. B. Robertson, Oklahoma City; B. C. Hubbard, Grand Rapids; George Lacay, New York; S. J. Lusby, St. Louis; Walter J. Merry, Philadelphia; E. H. Ott-

(Continued on Page 86)

Meeting of Allied Distribution, Inc., held in Atlantic City during the course of the AWA convention.



MERCHANDISE SESSIONS

(Continued from Page 67)

Construction Costs." Pointing out that America has done no building except for war needs and conversion for something over a decade, the speaker explained that the demand for building is staggering, and that costs are not likely to come down as a result. The rapid growth of population in the country is another factor for continuing high demand and high costs. The paper stated that to find a trend toward one-story warehouses was difficult, and to decide categorically whether warehouses should be one or more stories was impossible. Many factors would have to be taken into consideration; its location, what it was to handle, comparative costs, etc.

J. D. Beeler, Mead Johnson Terminal Corp., Evansville, chairman, general traffic committee, led the discussion on carrier practices in relation to warehousemen. The topic was divided into three subjects: demurrage, "split delivery" of carload freight, and pick-up

and delivery contracts between carriers and warehouse operators.

Frank E. Kearney, general sales manager, Lehigh Warehouse & Transportation Co. and Lackawanna Warehouse Co., Inc., spoke on the subject, "Selling Public Merchandise Warehousing Service." He deplored the fact that "seldom, if ever, is a fund set up in times of affluence to be spent in more difficult times to promote sales." To better the selling job the industry must perform, Mr. Kearney suggested the following points: (1) Instruct the sales force to keep plugging at hard accounts; (2) Know costs so salesmen can properly sell rates; (3) Seek out and sell the manufacturer or distributor; don't wait for him; (4) Carefully instruct salesmen in all details; (5) Give sales room to overall distribution and services, not just storage and handling; (6) Handle all inquiries promptly and efficiently; (7) Serve customers already on books; (8) Set up a definite sales program; call on customers and prospects with regularity; (9) Use services of the organizations

belonged to; (10) Be active in local traffic clubs. For better publicity and advertising, which definitely ties in with the selling job of the industry, he suggested the following: (1) Know the local newspaper personnel in town, and send in items of interest; (2) Send items to trade publications; (3) Send articles to national magazines; (4) Keep buildings neat and presentable; (5) Avoid stereotyped advertising; (6) Advertise in media which are read by the people desired to reach; (7) Use a concise brochure to reach top executives.

Ernest L. Becker, Cincinnati Merchandise Warehouses, Inc., Cincinnati, chairman, committee on public relations, reported on "An Industry Program for Business Development," commenting on the important job of "selling" the industry in business circles and to the public.

H. F. Pratt, Chicago, chairman, Committee on Cost Accounting and Rating Procedure, led the discussion of the perplexing problem

(Continued on Page 74)

Good for drivers' "morale" - - and for management's, too



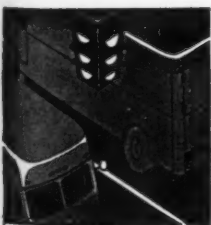
Sitting in the cab of a Gerstenslager Custom-built Truck or Van Body helps to give a driver that feeling of respect for his job which is essential to the best highway transportation performance. The comfort and convenience recognized by drivers is a special point in Gerstenslager design.

Management morale is also something to think about in these days of high operating costs. Owners of Gerstenslager Bodies have confidence that operating budgets will not bog down under excessive expense due to frequent and premature body repair bills.

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Van Bodies



Photos Courtesy Fruehauf Trailer Co.

Public Relations Theme of NFWA Meeting

THE promotion of cordial relations between furniture warehousemen and employes, the public and the government, was the major theme of the 27th annual meeting of the National Furniture Warehousemen's Assn., held at Palm Beach, Fla., with a registered attendance of 465. The technical aspects of management-employe relationships were discussed in addresses by Griswold B. Holman, Geo. B. Holman & Co., Inc., Rutherford, N. J., who spoke on "Wage and Hour Law;" by Benjamin R. Miller, American Trucking Assn., Washington, who discussed management-labor relationship under the provisions of the "Taft-Hartley Act;" by David Brodsky & Lieberman, New York, who spoke on "Labor Agreements;" by Harold J. Blaine, Los Angeles, who outlined steps in the preparation of an "Employee's Manual;" and by Daniel P. Bryant, Los Angeles, who discussed the selection and training of warehouse personnel.

The enhancement of prestige through a properly coordinated and integrated program of advertising and public relations was discussed by Richard Joyee, chairman of the sales promotion and advertising committee, who presented the results of an intensive study recently undertaken by the committee. Gene Flack, director of advertising for Sunshine Biscuits, Inc., New York, discussed the 15 essentials of effective selling, and predicted that in 1948 selling will regain its pre-

war position. He emphasized the importance of the sales potentials inherent in the population growth and our record-setting national income.

A program designed to help the furniture warehousing industry sell the public on the effectiveness of its services was presented by Richard G. Elliott, vice president, Theodore R. Sills & Co., Chicago. Through the medium of an interesting presentation, the industry's major problems in public relations were analyzed and solutions suggested.

The future of air cargo in the shipment of household goods was outlined in the report of the air transport committee, which has

conducted a study of various phases of coordinated ground and air handling of air shipments of goods. The report was presented by J. C. Aspinwall, Jr., Security Storage & Van Co., Norfolk, Va., who predicted that airplanes specifically designed for the transportation of household goods would eventually be designed. Now in the state of development, Mr. Aspinwall stated, are several all-cargo planes which will reduce operating costs to a point that will enable air cargo carriers to offer much cheaper rates. At present, he said, there are many instances in which an air movement of household effects can be more economical than the same movement via motor van or rail. Mr. Aspinwall cited the following example:

"A 6000 lb. shipment going by van will be subject to the Rand-McNally mileage as shown in that Guide. Due to the circuitous routing that is sometimes necessary, the van mileage would be more than twice the actual air line mileage. Therefore, even though the per ton mile cost of moving via air is greater, there would be fewer air line miles and, therefore, a smaller total cost."

The present air line charge to the warehousing industry is approximately 15c. to 21c. per ton mile (depending on type of equipment used.) It is felt that this cost will be reduced to approximately 8c. to 12c. within the coming year, Mr. Aspinwall stated.

(Continued on Page 86)



Charles D. Morgan
New President NFWA

Towmotor Service Shop Opens in New York

NEW YORK CITY has recently acquired a new modern, fully-equipped service shop devoted exclusively to the maintenance and repair of fork lift trucks, industrial tractors and fork lift truck accessories. The new service, inaugurated by Towmotor Corp., Cleveland, is situated at 111-113 LeRoy St., New York City.

Occupying a new, two-story building, the shop is equipped to provide complete maintenance and major overhaul service, with factory-trained personnel supervising all operations, including steam cleaning and repainting work. Pickup and delivery service is available anywhere in the New York City area. The receiving room of the new service shop features levelator equipment which permits loading and unloading of equipment under its own power from transport trucks of any height.



In this modern, two-story building at 111-113 LeRoy Street, New York, towmotor Corp. has opened a new, completely-equipped service and maintenance shop in which factory-trained personnel provide complete overhaul and preventive maintenance service on Towmotor fork lift trucks, tractors and accessories in service in the New York area. Pickup and delivery service is being provided and a complete inventory of parts is maintained.

New Method OF HANDLING WITH

ESCORT TRUCKS

The Escort Appliance Truck for handling electrical appliances, refrigerators, water heaters, drinking fountains, stoves, etc. Also bookcases, filing cabinets, small iron safes and many other hard-to-handle items. Relieves strain, accomplishes a good delivery.

The Escort Junior handles trunks, boxes, small packages, etc.

Both trucks equipped with the famous caterpillar roller bearing step climber. Goes right up the steps or stairs on a fabricated rubber belt running over rollers set in a rigid aluminum frame.

Both sold on a money back guarantee. If not satisfied after fair trial return for refund of full purchase price.

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**FAMOUS
CATERPILLAR
CLIMBER**

**GOES
RIGHT UP
THE STEPS**

solar fields by a 7½ ton Plymouth locomotive. Each car is divided into three sections that carry approximately 15 tons of crude salt each. At the plant rail entrance, an electrically driven hoist tips one section at a time and dumps the salt into an elevator that takes it up to a dryer.

No longer crude salt from this point, it goes through varying refining processes in the building. After it has been passed through rolling dryers, some of it is ground into fine table salt to which less than one percent of magnesium carbonate is added to make it pour freely during damp weather. In some cases a small amount of iodine is added as physicians recommend it as a preventive of goiter in districts where there is a deficiency of iron and other minerals in the drinking water. The remainder is put through varying degrees of grinding, ranging from the very finest to the very coarse type that is used for commercial purposes. Some of it is moulded into glistening white tablets that are put into glass bottles for medical use.

An unusual product of the plant is the compressed or solid salt block which is used by the farmer for feeding cattle. It is subjected to the powerful pressure of 700 to 1,000 tons on each block. In the past, the agriculturalists used lump rock salt or loose salt, but they have discovered that this block is more efficient for their cattle when they are feeding on the ranges.

Let us see how the salt is mined in a hydraulic or water mine. A salt well is drilled down to the rock salt deposit in the same way as a water, gas or oil well except that it has a double casing or pipe, one inside the other. Pure fresh water is pumped down the outer casing to the salt vein below and forms a brine or mixture of salt and water which, being heavier than water, sinks to the bottom of the cavity and is forced up the inner casing by the pressure of the fresh water coming down.

In sections where the salt deposit is at reasonably shallow

depth, the pressure of the water pumped in is sufficient to force the brine to the surface, but where the rock salt is deep, it becomes necessary to employ compressed air to elevate the brine.

In such wells, a compressed air line with a "U" bend at the bottom is dropped down the inner casing to a point just below that to which the brine is raised by the pressure of the incoming water. Upon reaching that point, the brine is carried the rest of the way to the surface by the upward force of the air.

As the brine comes in from the wells, it goes first to settling tanks, which are huge wooden vats or tubs. Here the chemists draw samples to determine the salt content of the brine and determine what impurities are present.

The brine is required to stand in the first settling tanks until any non-dissolvable matter which has come up from the well has settled to the bottom. Then the clear brine goes into a second series of open tanks, heated by steam coils, where a special treatment is given to remove impurities.

The brine is cloudy in the first settling tanks, but it becomes clear as crystal by the time that it reaches the last one. Consequently, the open operation is to change it to salt. Two methods, the open evaporator process and the vacuum process are the ones most commonly employed. In the open evaporator room is a long row of shallow steel pans. Suspended in these pans is a series of 4-in. steam pipes. Steam continually flows through them to cause the evaporation of the brine with which the pans are automatically kept filled. This brine must be kept at an even temperature. If it varies more than two degrees, an entirely different grain of salt would be the result. The size of the grain is determined by the degree of heat employed. The refiners have found that low temperatures produce coarse salt crystals and high temperatures very fine ones.

As the brine becomes hot from the heat of the steam pipes, the 73½ percent water it contains turns into steam and passes out of the room through overhead hoods connected with ventilating stacks. Meanwhile, the salt crystals form on the surface of the pans, float for a few minutes and then sink gently to the bottom. It is this brief period of floating that gives the crystals the flat, flaky shape that is characteristic of open evaporator salt.

At the bottom of the open evaporator, automatic rakes slowly push the salt crystals to the end of the pan and up an inclined drain board. There they pause briefly and then fall upon a moving belt that whisks them away to the drying department. This endless belt constantly passes through water to keep it free from impurities that might spoil the salt. The resulting open evaporator salt is used in the dry salting of meats, production of bread by commercial bakers, and the making of butter and cheese.

The vacuum evaporator process is more complicated. It produces tiny crystals from which Morton Free Running Salt is made. These cube-shaped crystals tumble off one another instead of sticking together as do flake crystals from the open evaporation process in damp weather.

The vacuum evaporator process is based on the scientific fact that water boils at a much lower temperature in mountainous regions than it does at sea level. That is because the thinner air of the mountains exerts less pressure on the liquid, thereby reducing its boiling point. By taking advantage of this law of physics, it is possible with the vacuum process to produce salt more economically than by any other method. Less steam and therefore less coal is required, and by connecting a number of vacuum evaporators, it is possible to use the same heat several times.

The vacuum evaporator is a large, costly piece of machinery. Each evaporator consists of two gigantic cast iron cones set base on base, and between them a thick dough-shaped section known to the

saltmaker as a steam belt. This steam belt extends far into the evaporator from all sides, leaving only a small hole or well in the center. However, between the well and its outer edge, the steam belt is pierced by thousands of copper tubes, open at both top and bottom. It is these heated tubes that boil the brine which goes up through them and down through the well. Its downward circulation is aided by a propeller like that of a ship.

To insure efficiency and economy, vacuum evaporators are usually operated in batteries or rows of three or four. The evaporator to the left and its steam belt is filled with live steam. This steam circulates around the copper tubes and causes the brine to boil violently. It does this at a much lower temperature than it would in the open, because air has been pumped out to form a vacuum. As the brine boils, cube-shaped crystals form and drop to the bottom of the evaporator, where they are removed by pumps.

Evaporator 2 does not require

live steam as its steam belt operates efficiently on the hot vapors cast off by the boiling brine in evaporator 1. This evaporator must have a higher vacuum than evaporator 1 so its brine will boil at a still lower temperature. No. 3 is operated in the same way. The vapors from No. 2 contain sufficient heat to boil its brine because its vacuum is even higher. Brine in evaporator 3 boils at a temperature of only 140 deg., whereas it takes 226 deg. Fahrenheit to boil it in the open atmosphere.

Salt packages are divided into three general classifications, sacks, square cartons and round cartons. The little sacks known to the trade as "pockets" vary in size from one to 10 lbs., while the large sacks weigh from 25 to 125 lbs. The salt for each sack is weighed automatically after it has been dropped into it by means of a machine. The sack is then moved by belt to a high speed sewing machine which quickly and securely closes the tops and bottoms. The small sacks are packed in bales or, rarely, in barrels before they are shipped,

but large sacks are loaded loose in the cars. A major portion of the salt of the country is sold in car-load lots by brokers or salesmen who make a very narrow margin of profit, since the price of the product is comparatively stable. It might be added here that cloth sacks are being replaced by paper packets because of their greater cleanliness and additional protection against moisture, and because of the rising price of cotton sheeting.

Machines that rival men in skill and surpass them in rapidity are employed for packing square cartons of salt. A long stream of empty containers is fed to them, whereupon these machines weigh the salt, put it in cartons, and glue their tops and bottoms. Other machines then take the filled cartons and wrap and glue labels upon them, carefully folding the labels over the ends. In this way, the packages are doubly sealed so that they are able to resist moisture.

Some kinds of plain and iodized salt are packed in round cans.

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Automatic machines apply the labels to these cans while they are empty, following which they pass to a varnishing machine where a thin coat of moisture proof lacquer is applied. Other machinery removes the cans from the varnishing rolls and carries them away to be thoroughly dried before they are filled with salt.

The marketing and distribution of salt is a highly competitive and specialized industry. The margin of profit that a broker or jobber makes is commensurate with the service that he is expected to perform in getting the product to the ultimate user. His average mark-up varies from 5 to 10 percent. The industrial user who comes down to the freight car and unloads the salt into his own trucks and takes it to his own warehouse and stores it until he uses it, nat-

urally gets a lower price than the one who expects the shipper to unload and deliver. Most salt is loaded by means of hand trucks and fork lifts. It is frequently unloaded from cars by means of escalators.

An important factor in the successful distribution of salt is the temperature. A few wholesalers and industrial firms have special rooms for the storage of salt. In cases of this kind, they try to keep their salt at a temperature of about 60 deg., and use a blower heater to keep the air circulating in their salt shipments. Special requests are made for shipment of salt into mountain regions by means of refrigerator cars. These are used because they are insulated at their tops, bottoms and sides against sub-zero temperatures.

Upon a study of statistics, we find that the United States produces more than eight billion pounds of salt each year—an amount that is more than enough to fill 200,000 freight cars. It provides one with strong evidence that he does not have to take the statement that its distribution is one of our country's important industries "with a grain of salt."

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Household goods rights in all Western States, particularly Washington, Oregon, California, Arizona, New Mexico, Nevada, Utah and Idaho. Will purchase business if necessary. Please give actual extent of I.C.C. Certificate. Address

Box T 928 c/o DISTRIBUTION AGE,
100 East 42nd St., New York 17, N. Y.

MERCHANDISE SESSIONS—(Continued from Page 69)

of warehouse contract terms and conditions. Storage period, insurance, storage rates, expiration and transfers; handling; car unloading and loading; delivery requirements; bonded stores; minimum charges; extra and special services; and liability were discussed from the floor.

Taking for granted a banker's knowledge of warehouse affairs "is a very poor policy on the part of the warehouseman from a business standpoint," C. J. LaMothe, St. Louis Terminal Warehouse Co., St. Louis, district chairman, committee on banking relations, Federal Reserve District 8, warned members. The AWA has laid the foundation for a cordial relationship and understanding between bankers and warehousemen in two ways, Mr. LaMothe continued, "through the committee on banking relations . . . with a chairman in each of the Federal Reserve Districts, with several members of the committee selected from a geographical standpoint . . . and the publishing of the brochure 'Warehouse Receipts as Collateral.'" 46,000 copies of this

publication have been distributed since publication, and it is credited with bringing the banker and the warehouseman closer together in a business relationship of benefit to both. Mr. LaMothe mentioned the continuing efforts of the AWA to obtain from bankers the same favorable recognition of collateral for non-negotiable warehouse receipts as negotiable receipts now have.

"This Pool Car Business" was the subject of a spirited discussion led by D. M. Liddle, Merchants Transfer and Storage Co., Des Moines. A pool car, with merchandise in several different sizes, consigned to several different firms, can really only be handled by a warehouseman, stated Mr. Liddle. Some of the services rendered by the warehouse on pool cars are: unloading, checking and segregating orders, preparing tickets or bills of lading, marking and stenciling, routing, call carrier, outbound handling, following up to effect delivery, prepaying outbound freight charges, making out O S & D reports, reconcooping, reconsignment, etc.

Philip Milstein, Bankers Warehouse Co., Denver, chairman, committee on warehousing documentation and office procedures, and his committee, appeared on three successive days, dividing up their lengthy, detailed discussion of warehouse forms. Copies of a 42-page report of progress of the work done by the committee were passed out, and the members followed the discussion of rate quotation forms, tallies and receiving reports, warehouse receipts, stock records, O S & D reports, warehouse delivery orders, pool car distribution records and invoices.

In accepting the office of president of the division, J. Leo Cooke said, "I pledge to you the utmost in endeavor on behalf of my fellow officers and myself in progressive leadership of the association. To accomplish our objective, however, your new administration will seek and must have the wholehearted support of not only the officers, the executive committee, and the chairman of various committees, but the entire membership."

tives with the fact that handling is not a quality production operation—it is just an expense operation.

The phrase will be used until a better one is developed, and then it will be the next phrase that will be used repeatedly.

We have eliminated a lot of phrases in the past few years, which were formerly detrimental to the subject of materials handling, and we now say: "labor-aiding machinery," or "labor-promoting machinery," and not the old term "labor-saving machinery" which was not even a true term, because this machinery made more jobs and more production possible by better materials handling.

So it will be with this phrase "Materials handling adds nothing to the value of the article handled." A new one will be developed, and I believe before too long.

I will look forward with interest to receiving a copy of your article: "I Do Not Apologize For Materials Handling" in the MANUFACTURING RECORD for February. The more we can have written and published on the subject of materials handling, the more the art will grow. You will note I use the term "art," and not "science," because I do not believe that materials handling is a science, but it is an art, and therefore, it must be developed along the line I had spoken about in the article on materials handling departments, by analyses, and by close coordination.

Refrigeration Research

Sir:

We wish to express our interest in the article "New Cold Storage Developments" by R. T. Prescott, Assistant Director of The Refrigeration Research Foundation, that appeared in the Dec., 1947 issue of DISTRIBUTION AGE. It was certainly an interesting treatment of a subject that is often times just taken for granted by the consumer of frozen foods.

The article brought to mind a condition which now prevails in the industry and one which is to become more serious with the growth of cold storage warehouses. The point referred to is that of a satisfactory flooring material for cold storage warehouses.

As manufacturers of technical floor treatments that are used both in new construction and in extending the useful life of existing concrete floors we have had numerous inquiries from cold storage warehouse operators regarding the materials and methods for repairing some of their worn floors. In most instances it has been pointed out that the floor had been subjected to the heavy loads and traffic of modern handling equipment such as forked lift trucks and hydraulic lift dollies. Regardless of whether these materials handling machines are steel wheeled or rubber tired, the point

loads are high and the abrasive effect is more severe than that ordinarily withstood by a plain concrete floor. On worn floors of this type there is very little that can be done by way of making satisfactory long life repairs largely because most of the effective patching materials must be placed at temperatures higher than those encountered in the average cold storage warehouse and it is quite unreasonable to expect the operators to heat up their rooms in order that the floors can be repaired. It is, therefore, felt that this particular point should be stressed with builders of new cold storage warehousing facilities

—V. S. Andrews, Assistant Manager, Industrial Sales Div., The Master Builders Co., Cleveland, Ohio.

Mr. Asher's Article

Sir:

Mr. Frank E. Asher's article entitled "Wages, Income and Profits," which appeared in the Dec., 1947 issue of DISTRIBUTION AGE has been read by a number of our employees and myself. We desire to express our keen interest in the informative and interesting contents.

Mr. Asher has managed to present what we deem an exhaustive and interesting study of an otherwise dry and uninteresting compilation of statistics.

—Edward I. Langsam, Neptune Storage Co., New Rochelle, N. Y.

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North American Van Lines, Inc.
General Offices: FORT WAYNE, IND.

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People in Distribution

For our readers' convenience, items referring to one person only are arranged alphabetically according to the individuals' names. Company news or changes affecting more than one individual are arranged alphabetically by company names. Association items are similarly arranged.

Richard N. Bale, identified with Peruvian air cargo and passenger transportation, has been named executive representative for Braniff International Airways in Peru with headquarters in Lima.

Douglas Campbell, aviation veteran long identified with South American trade, has been named vice president and general manager of Pan American-Grace Airways (PANAGRA).

Roberto Carrasquillo has been appointed traffic and sales representative for Eastern Air Lines, in San Juan, Puerto Rico.

Howard L. Drennan has been named manager of the newly-opened Toledo, O., branch of the Greyhound Lines, Inc. Storage will be handled locally by the Depenthal Truck and Storage Co. (Kline)

Larry T. Earley has been appointed manager of automotive jobbers' sales, a new department in Goodyear Tire & Rubber Co.'s sales organization, Akron, O.

Robert Heller, nationally-known industrial engineer and head of Robert Heller & Associates, has been elected a director and member of the Executive Committee of Jack & Heintz Precision Industries, Inc.

C. B. Johnson has been appointed division manager of the Chicago office, Darnell Corp., Ltd., to take the place of the late L. J. Clarke. Mr. Johnson had been Mr. Clarke's assistant for a number of years.

Bernard Lester, assistant manager, headquarters, Industrial Sales Dept., Westinghouse Electric Corp., has retired after 43 years of service with Westinghouse.

L. B. Lillie has been appointed merchandise manager in charge of truck tires, retread and repair materials for the Fisk tires division of United States Rubber Co.

Henry H. Ritchotte was appointed regional manager in charge of sales of Worthington construction equipment and mining products in Canada, for Worthington Pump and Machinery Corp. Mr. Ritchotte was formerly sales manager for Independent Pneumatic Tool Co.'s Contracting and Mining Tool Div.

R. R. Rolph has been appointed sales manager, Monroe Auto Equipment Co.'s automotive division.

Delmart T. Stauch has been named traffic manager of the Sawhill Manufacturing Co. plant in Wheatland, Pa., succeeding the late Chester C. Reed. (Kline)

Eugene W. Stetson, Jr., has been elected a director of The Yale & Towne Manufacturing Co. Mr. Stetson is assistant vice president of the Chemical Bank & Trust Co. He is also a director of Canada Dry Ginger Ale, Inc. and the Reinsurance Corp. of New York, and a trustee of St. Luke's Hospital of New York.

Harry Stockdale has been named assistant freight traffic manager at Chicago, Canadian Pacific Railway.

William B. Tierney, former manager of the Wilkes-Barre, Pa., branch of The White Motor Co., has been appointed assistant sales manager, wholesale division, with headquarters at Cleveland.

Richard K. Waldo has been appointed program planning officer in the Staff Programs Office, Civil Aeronautics Administration.

Tom A. Whitley has been named district traffic manager for Braniff International Airways in Memphis, Tenn.

Allegheny Ludlum Steel Corp. has appointed **Merle J. Graham** manager of the West Leechburg, Pa., plant. **Frank G. Bonford** has been appointed assistant plant manager. **R. J. Bryan** has been named plant manager of the Buffalo Foundry. **Dr. P. K. Koh** is new associate director of research in charge of tool and die steel and allied products. **George I. Bottcher** has become assistant chief engineer and **C. M. Binney** is assistant district manager of the New York sales district.

American Bantam Car Co. has announced that **Dean B. Copeland** is now president, succeeding the late Francis H. Fenn. Mr. Copeland had been a vice president of the Butler County National Bank and a director of the Bantam truck-trailer manufacturing company. **Jerome P. Bowes, Jr.**, who is now chairman of the board was formerly vice president of the W. A. Alexander Co., Chicago, general insurance brokers. **Stanley Winkler**, New York City, is now vice president.

American Express Co., Inc. has announced that **John P. Wagman** has been elected vice president. He was formerly wartime export specialist in the American Embassy in Mexico City. **Howard L. Clark** has been elevated to vice president. He was formerly assistant to vice president. **Albert R. Cotterill**, who formerly was office manager of the executive office, will assist the secretary.

Douglas-Guardian Warehouse Corp. has announced that **Stanley D. Hart**, vice president, has assumed new duties as special

assistant to the president, **Jay Weil**, at the corporation's main office in New Orleans. Previous to this appointment, Mr. Hart was in charge of the company's Northwestern territory with headquarters in New York City. **T. C. Brandeis, Jr.**, assistant secretary-treasurer, will head the New York office, in charge of the Northeastern territory.

The B. F. Goodrich Co. has announced the following changes in the executive organization of the Industrial Products Sales division: **Orno B. Roberts** has retired as manager of the division's Chicago district and is succeeded by **John S. Gullledge**, manager of the Cincinnati district for the last year. **George W. Green** has become manager of manufacturers' sales of industrial products in the Chicago district. **Ernest E. Haupt** succeeds Mr. Gullledge as Cincinnati district manager. **Robert T. Kain** has been transferred to Dallas, Tex., as manager of that district. He was formerly manager of the industrial products district office in San Francisco. Mr. Kain succeeds **David Anderson** who has been assigned to special sales duties. **Harland B. Lane** has been named manager of the San Francisco district.

Mack Trucks, Inc. has announced the retirement of **C. W. Haseltine**, vice president, secretary and treasurer of that organization as well as director of Mack Manufacturing Co., manufacturing subsidiary. **F. W. Sommer** has been appointed treasurer and **T. V. Homan** has been named secretary of the company.

National Truck Leasing System has elected the following officers: President, **R. A. Munder**, Yellow Rental, Inc., Philadelphia; vice president, **R. D. Sidel**, Metropolitan Distributors, Inc., New York City; treasurer, **Howard Willett, Jr.**, The Willett Co., Chicago; secretary, **Fred P. Baker**, Baker Truck Rental, Inc., Denver. Executive Committee with the above named officers are: **J. C. Rennie**, California Truck Rental Co., Los Angeles, **James Ryder**, Ryder Trucking Co., Miami, Fla., **C. P. Clark**, Columbia Terminals, Inc., St. Louis, Mo., as retiring president, has become an ex-officio member of the executive committee. **Martha Dunlap** will continue to serve as executive secretary of the organization. The following new companies were added to the System's roster since the last executive committee meeting in October: Automobile Rental Co., Providence, R. I., Lima Truck & Storage Co., Lima, O., McArdle & Casazza, Albany, N. Y., Holdcroft Lease-It, Inc., Sioux City, Ia., Truck Leasing Corp., San Antonio, Tex., National Motors Co., Trenton, N. J.

Railway Express Agency has made the following appointments: **John J. Boylan** as superintendent of organization, headquarters, Chicago. **J. Wylie Lumpkin** as safety director, Southern Dept. **Joseph H. Murray** as superintendent, Prevention and Security Dept., succeeding **George M. Dallas**, retired. **James C. Van Nordstrand**, as superintendent of claims headquarters, Chicago, succeeding Mr. Boylan. **Willis E. Wright** as superintendent of the Western Texas Div., headquarters, San Antonio, Tex., succeeding **E. L. Head**, transferred.

Slick Airways has appointed **W. F. Rogers** to the newly-created post of vice president and assistant to the president. He was vice president of sales and traffic for the

past six months. Parkman Sayward, Southwest division manager, has been appointed general sales manager.

Texas & Pacific Railway Co. has announced that C. D. Johnson will retire April 1 as assistant to the president, S. L. Wright, executive general agent, will assume Johnson's duties.

United States Aviation Underwriters, Inc. has announced the advancement of James R. Graham to resident vice president in charge of the Western Dept. with headquarters in Chicago. Mr. Graham had been manager of the Eastern Dept., and his duties will be assumed by W. R. Hall, former manager at Chicago.

American Standards Assn. has elected the following members of the Electrical Standards Committee: Charles Rufus Harter, of the Connecticut Co., New Haven, Conn., representing the American Transit Assn., as chairman; Dr. W. R. G. Baker, General Electric Co., representing the Radio Manufacturers Assn., as vice chairman; Sidney Withington, chief electrical engineer, New York, New Haven & Hartford Railroads, as vice president representing the power section.

American Trucking Assn., Inc. has announced that Julius Gaussoin has been reappointed chairman of the Equipment and Maintenance Committee. He is with the Silver Eagle Co., Portland, Ore. Walter Holland, assistant manager of the Field Service Dept., ATA, has been appointed executive secretary of the District of Columbia Trucking Assn. He succeeds W. Earl Givens, Jr. who resigned his position with the local association to become director of personnel and safety for the Geo. F. Alger Co., Detroit.

Great Lakes Shipowners Assn. has elected William F. Deane, president. He is vice president of the Nicholson Transit Co., River Rouge, Mich. Arthur G. Sullivan, of Garland Steamship Co., Chicago, was elected vice president; and A. B. Cozzens, who is manager of the crane vessel department of Columbia Transportation Co., Cleveland, secretary-treasurer. John H. Eisenhart, Jr., Washington, was named Washington counsel of the association. (Kline)

Houston Warehouse and Transfer Assn. has elected the following officers: President, C. Gibson Herrin, Herrin Transfer & Warehouse Co.; secretary, Ralph Logan, public relations; treasurer, Jules de la Moriniere, Jr., E. A. Hudson Transfer & Warehouse Co.; vice president-household, George G. Harris, Harris Moving & Storage Co.; vice president-merchandise, W. J. Rynon, Buffalo Warehouse Co.; vice president-cartage, Dan Dalberg, Westheimer Transfer & Storage Co.; director-at-large, Thomas M. Smith, Houston Terminal Warehouse & Cold Storage.

Indianapolis Traffic Club has elected W. L. Fogleson, president, succeeding Slade Freer. Mr. Fogleson is general traffic manager of F. R. Mallory & Co. Other officers elected for the year include: K. F. Macklin, who is sales manager of Motor Freight Corp. as first vice president and J. P. Chesline as second vice president. Mr. Chesline is traveling freight agent for the Milwaukee Railroad. Verne T. Hutchin-

(Continued on Page 87)

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STOP PLAYING WITH FIRE—(Continued from Page 35)

adequate insurance. He can gain nothing from over-insurance, in fact, he pays a higher premium than he should, therefore, he should ascertain what the property is worth when the policy is written so that the protection is adequate. Thereafter, he should review his policies annually to determine "present value" because property depreciates and the insurance company will make allowance for this depreciation when it settles a claim.

At a time like this, "present value" is torn between high costs and depreciation and the calculation is more involved than it was before this inflationary period. For this reason, the way to cut the Gordian knot is to call in a competent appraiser to determine "present value" and insure accordingly, or ask your insurance agent or broker to send around a qualified engineer. Insurance companies offer this service. Remember that "present value" is all you can collect in case of a fire and premiums paid upon, any excess over this value is money wasted.

PROOF OF LOSS. When a fire occurs, records often burn up in it, and so the policyholder cannot present an accurate proof of loss and the insurance company wants facts before settlement. Either put this document in a fireproof safe or in a safety deposit box in the bank. Too few policyholders prepare such documents and they will have a hard time trying to sustain proof of loss even for a partial fire. Even if you have a proof of loss safely tucked away, review it in the light of present costs to determine its adequacy. Inventory all insured properties with values.

BUSINESS INTERRUPTION INSURANCE. This is sometimes called use and occupancy insurance. Too few managements carry this insurance, assuming that if they are covered for fire loss, they lose nothing, but they fail to consider the business loss resulting from fire. Fire policies do not reimburse for the profit

you won't earn while your plant is being re-built. Business interruption insurance covers this loss, paying the net profit you do not earn because of a fire and such expenses which continue during a partial or total suspension of business.

Managements already carrying this insurance should review these policies because, when applying for this coverage, the policyholder estimates the length of time to re-build or replace destroyed property and stock, and obviously this period is much longer today because of replacement delays. This, plus the fact that business costs are higher than in prewar days, make it necessary to re-check all figures that were originally submitted to the insurance company in order to adjust them if necessary; otherwise you may not collect the business losses experienced. Some insurance companies, taking the longer replacement period into consideration, have increased the rates on this form of insurance.

FIRE PREVENTIVE EQUIPMENT. Fire buckets, fire doors, fire shutters and extinguishers, are not only helpful in snuffing out a fire quickly, but in some cases, their use reduces the cost of insurance in excess of the cost of the equipment, so you save money too. See that all electric wiring conforms to the National Electric Code, that you are using approved containers for storing and handling inflammable liquids, that rubbish is not allowed to accumulate in out-of-sight places. Be sure that all preventive equipment, such as fire extinguishers, electrical accessories, motors, even boxes of matches, bear the label, "Underwriters' Laboratories Inspected." This organization is maintained by the National Board of Fire Underwriters for the purpose of testing devices, materials and apparatus that affect the fire hazard.

KNOW YOUR COVERAGE. Recent field studies disclose that many policyholders are carrying enough insurance, but it is badly distrib-

uted because of the changes in asset values during the past few years. In some cases, there was too little insurance on stock because materials had gone up, too much on buildings because considerable depreciation since the policy was written had cut below present value, too little or too much on working equipment. Where policyholders are carrying enough insurance, but badly distributed, they may have only a fifty-fifty chance of collecting in full if a loss occurs.

Check to see if policies are eligible for supplemental endorsement covering losses from tornado, hail, falling trees, explosion, riot and aircraft damage. Fire insurance will not pay for merchandise ruined by water damage or faulty operation of an automatic sprinkler system but there are policies available that will.

BUSINESS CHANGES. Fire insurance is sold on the basis of conditions prevailing at the time the policy is written. Any change later may void it or suspend it while the hazard not covered by the policy continues. Notify the insurance company of an increase in hazard and get written recognition. Repairs and alterations often render the risk more hazardous. One policyholder sustained a loss through working overtime, thus increasing the hazard because of the greater danger due to over-heated machinery and less strict supervision. He was not covered because he had not received the insurance company's permission to operate. Shutdowns for a long period are usually considered an increased fire hazard because of less vigilant watchman service and reduced efficiency of plant fire-fighting equipment. In one case, a policyholder gave permission to a utility to run a power line over the building, which short-circuited in some way and caused a fire. The insurance company refused to pay because this hazard was not existent when the policy was written. Insurance companies are cooperative in such matters but they won't stand for violation of contract. A policyholder may often get written recognition of changes at little or no additional expense.

Planning new construction!

Then send your plan to the insurance company. They may be able to suggest changes that will cut insurance cost with little or no additional construction cost.

BUY RIGHT. The cost of fire insurance is not prohibitive but the cost of a fire can bankrupt a business, yet the only feature about fire insurance that many businessmen understand is the price they pay for it. Buying fire insurance on price is as unwise as buying anything else on price. Many policyholders pay twice for some insurance because they buy it piecemeal from anyone, from a friend or lodge brother, resulting in overlapping coverage between two policies. They pay twice for the same thing because they buy blindly and do not analyze coverage.

There are so many angles to fire insurance that management can be excused if it is not wholly conversant with the subject. But it can be criticized for not acquiring the necessary technical information from competent experts. Agents selling fire insurance will give such counsel, but losses sometimes occur when these individuals cooperate, largely because policyholders do not furnish enough data to enable the agent to advise properly. Give your agent access to all factors touching your business. In some cases, insurance counselors are helpful and the fees charged are small compared to the savings effected.

New MHI Members

The Material Handling Institute has announced the following new members:

Fab-Weld Corp., Pickwick & Richmond Sts., Philadelphia 34, Pa., G. J. Hanhauser, sales manager.

Globe Hoist Co., 1000 E. Mermaid Lane, Philadelphia 18, Pa., Harry D. Smith, vice president.

The Lanham Co., 12th and Magnolia Sts., Louisville 10, Ky., P. B. Lanham, Jr., sec'y and treasurer.

Richards-Wilcox Mfg. Co., Aurora, Ill., E. R. Ransom, sales mgr., conveyor division.

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But we can't do it in the cities. Night time city pickup and delivery means a great deal more than just keeping truck drivers and helpers working at night. It means that a substantial portion of the working force in many lines of business would have to work, too. In every pick-up and every delivery there is a ground crew, just as there is a ground crew for every plane flight. And the ground crew is far more numerous than the actual transport workers.

The thousand and one items of business and commerce which we deliver and pick up all day long in the downtown areas of cities are the very things which keep the people in these places working. Every shipment has a history of effort involving many people. If truck deliveries were restricted to night time, downtown New York would blaze like a roman candle from dusk to dawn.

Trucks undoubtedly are a factor in traffic congestion. That is obvious. I think it is so obvious that it has been over-rated by many who hold opinions on the problem. Close study by experts reveals some rather astonishing facts in this connection. For example, the American Transit Assn., organization of the nation's street car and bus companies, made a survey throughout the country, checking up on city traffic congestion. They asked four questions. All had to do with congestion caused by trucks. Question No. 2 read as follows: "How serious is the situation caused by trucks, i.e., how would you rate vehicle blocks due

to trucks among the factors responsible for delays to your vehicles?"

In eighteen cities transit officials named trucks as a factor in slowing schedules while 25 cities reported no disturbance or negligible interference. It is most significant that from one end of the country to the other, it was noted that transit officials blamed private cars "usurping parking space," to use their language, and forcing trucks to double park to make deliveries as one of the big factors which led to blaming trucks. Cities like Boston, Baltimore, Denver, Indianapolis, Louisville, Pittsburgh, St. Louis and Seattle reported very little or no difficulty. On the other hand, New York, Cleveland and Philadelphia found truck loading and unloading an important factor in street car and bus delay.

What is the answer to the problem? We think it will be found in close and intensive study and work by every affected group—discarding preconceived ideas and approaching the subject from every angle.

Every factor involved must be considered. For example, it seems certain that Saturday closing, which has become an accepted thing in a great many areas, is an important factor in congestion during the other five days of the week. It means cutting potential delivery time down 16 percent. But there are important social and economic factors involved in Saturday closing, beyond the question of its influence in compressing delivery of goods into five days. These factors must be carefully weighed by those who understand them thoroughly. Just as the night-time delivery, the restricted day-time delivery, the one-way street patterns, the no street-side parking, the outlying parking area program, the union terminal

projects and all of the other factors bearing on the problem must be carefully weighed.

I think it is of major importance that business groups move right into the middle of this dilemma and give it their best efforts. Those cities which have been most successful in licking this problem are the same cities in which public-spirited citizens and interested groups really tackled the problem. Membership on such committees or organizations must be representative. What would you think of a group studying such a problem which failed to include on its membership anyone from the trucking industry? Yet that has happened, and in a major city which I shall not mention since the defect has been remedied. In Chicago our association has cooperated so successfully with authorities that this teamwork is held accountable for what success they have had in moving traffic. Incidentally, an underpass street known as Wacker Drive has been an important influence in relieving downtown congestion in that city, along with a network of outer drives.

As an industry we stand ready and willing to work with any organization which is made up of our customers and of men who themselves operate motor trucks, and with every other group interested in solving this problem. The time to give this our best attention is right now. We are getting by, but not too happily. There is nothing in the future that is encouraging if we proceed on a hit and miss basis.

Whatever rabble rousers may say about American business, they can't deny our businessmen know how to get things done. It is the particular boast of American business and industry that it refuses to be licked by problems. Here is a problem. Let's whip it.

nels, with private trade slowly emerging. The Irish Free State has regulations similar to Great Britain.

ASIA. While foreign exchange out of India is controlled by a reserve bank and certain authorized member banks, payment in dollars appears to be granted freely for goods shipped on draft. Letters of credit issued in advance of shipment are obtainable, but with much more difficulty. Import licenses are required on almost all goods. In China, an Export-Import Board must first grant an import license, which now is being given only for necessities and essentials. Foreign exchange is rather scarce according to late reports. There is practically no trade with those parts of China held by Russia. While Ceylon also is limiting imports to essentials, there seems to be no difficulty in obtaining dollar exchange for goods shipped from U.S.A. The Malay States are permitting imports only through recognized importers who were operating prior to the war. Considerable regulations have been introduced in Iran and Iraq, placing controls on imports and foreign exchange.

AFRICA. Union of South Africa has relaxed on regulations covering import licenses, except on luxury items. Foreign exchange, however, is under strict government control. Egypt requires license on all imports and regulates granting of exchange. The French, Spanish, Belgian, Portuguese and

British colonies are all restricted as regards free imports and securing of exchange.

AUSTRALIA AND NEW ZEALAND. Although trade from U.S.A. has continued at a fair pace with these two lands in the sterling bloc, both require import licenses and approval to request for exchange. Dollar letters of credit are still being received by exporters to Australia and such letter of credit may be accepted as indication that the necessary regulations have been complied with. Shippers to New Zealand are warned to first ascertain that an import license has been granted.

This completes a quick glimpse of the rather serious situation facing the private trader attempting to export goods from the United States. Everywhere doors to financial transactions are being closed. It should be pointed out in conclusion, however, this situation is one which should right itself as soon as the monetary difficulties of most lands abroad begin to abate. No people anywhere are self-sufficient. The crying need for goods will again, as always before, assert itself loud enough to cause restrictive regulations to be either eased up or ignored. Already, as pointed out earlier, forces are at work to circumvent restrictions. The gloom existing among export traders may be dissolved much earlier than a review of the situation today would indicate.



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Report of Cold Storage Committee

The Cold Storage Committee, appointed under the Research and Marketing Act of 1946, recommends an intensified research program under the direction of leading scientists and engineers . . . The Committee makes no specific recommendations affecting such physical facilities as warehouse design and materials handling.



THE report to the U. S. Department of Agriculture of the Cold Storage Committee, appointed under the Research and Marketing Act of 1946, contains a number of recommendations bearing on the application of refrigeration to the preservation of food and on the improvement of existing physical warehousing facilities. The report, which has been made available by the Executive Committee of The National Assn. of Refrigerated Warehouses, states that the Committee recommends with highest priority the establishment of fundamental researches in thermodynamics and related fields under the direction of distinguished scientists and engineers and that adequate research facilities, such as laboratories and equipment, be amply provided. The Committee also recommends that before and during the course of such investigations, by whatever administrative procedure required, the existing research in the fields affected be surveyed and integrated with studies going forward.

Since package materials and packaging methods may have a

large influence on the behavior of perishable farm commodities transported and stored under refrigeration, the Committee gives high priority to packaging research under provision of the Act, insofar as cold storage warehousing of packaged farm products is concerned.

Atmospheric control, modification and purification in refrigerated environment, with particular reference to elimination of volatile and odorous substances, is regarded by the Committee as possessing importance for the most effective warehousing of farm products. The investigation of the control of the water vapor phase of cold storage environment in relation to product behavior is also regarded by the Committee as important.

Since the application of protective coatings and coverings to perishable farm products may be an important factor in the behavior of such perishables while in refrigerated environment, the Committee recognizes that investigations in this field are important and favors research by the agencies responsible for the development and

use of such surface-protective materials.

The Committee gives high priority to investigations aimed at acquiring precise information on the effect of temperature fluctuations on frozen foods and other refrigerated products.

The Committee takes the position that when the achievement of environmental conditions in transport and storage of frozen foods, for instance, such as the specific maintenance of required temperatures or temperature ranges, to the exclusion of any other condition, require major expenditures of funds or major industrial effort, the scientific facts on which such desired practice is based should be fully evaluated and understood. Technical progress, the Committee states, can be orderly only as it is based on scientific facts and not on assumptions, however plausible or desirable these may be in relation to any specific stage of industrial development.

Since the preservation of foods by freezing is an industrial development of comparatively recent origin, much essential technical information remains to be uncovered

if this method is to benefit the distribution of farm products, out of season and over long distances, to the fullest extent possible. One phase of freezing preservation, as yet relatively unexplored in the scientific aspects, but potentially important in the nation's peace—as well as war-time economy, deals with precooked frozen foods of many sorts. Many unsolved scientific problems remain in this field. The Committee recommends the initiation of investigations in this respect, under the provisions of the Act, especially as they relate to storage behavior of products.

The Committee also recommends investigations, where needed, of commodity behavior in cold storage in relation to the deterioration of fatty or oily constituents of various products. In relation to pre-packaging of fruits and vegetables, the Committee is of the opinion that refrigeration is of vital importance to the success of this method of marketing perishables and it favors research affecting package materials and size as such affect handling and warehouse practices.

The Committee believes that the creation of new and the enlargement of existing scientific knowledge about the refrigeration of farm products should be paralleled by a broadly conceived educational program designed to convey such knowledge into general public acceptance and implementation. Since the primary purpose of refrigeration used in connection with foods is to protect and conserve the Nation's perishable food supply, it is essential that those who can benefit by such knowledge have it freely at their disposal and be encouraged to use it, whether they be engaged in the production, marketing or consumption of foods. Only when such knowledge is well understood and has early use by all concerned, will the full benefits desired as objectives of the Act be achieved.

Since the human factor is also important in the efficiency of work in cold storage environment and so may affect the skill with which refrigerated protection is given to farm products, the Committee ascribes moderate priority to a

study of the effect of refrigerated environment on man, especially as it relates to cold storage operation. The Committee is cognizant, in principle, of the studies in progress by the armed forces and recommends that, to the extent that national security permits, the search for facts, at the scientific level, be conducted with mutual availability of information. The Committee recognizes also that other agencies concerned with research in the fields of human health, behavior and welfare may be engaged in similar studies or may be vitally interested in them.

The Committee is aware that some of the proposed researches may have direct bearing upon national defense interests and recommends that intimate cooperative working relationships be maintained between the Department of Agriculture and related agencies on the one hand and the military establishments on the other, in all phases of such scientific investigations.

DESIGN OF WAREHOUSING FACILITIES

The Committee considered the adoption of a project of developing standards for the remodeling of existing warehouses and for the designing of new warehouses. It was deemed that such a project would be impractical, inasmuch as it would involve a detailed study of each individual facility. There are so many factors to be considered in any such study, of which taxes, real estate ownership or acquisition, zoning ordinances, fire laws, power costs, labor costs, etc., are examples, that it is difficult to do anything but consider each facility as a problem involving a tailor-made answer.

HANDLING EQUIPMENT

The Committee took under consideration the adoption of a project involving the study of mechanized handling in cold storage warehouses. It is felt that as in the project of warehouse designs, standardization is impractical. The characteristics of each warehouse are such that they require a separate and complete study of the application of mechanical handling technique to each individual

building involved. It was brought out by operators present that even those having several plants quite similar in character, found that the use of such equipment varies in each plant. For these reasons, it seems impractical to prepare any project involving a general application of mechanical materials handling equipment. As a further comment, the Committee wishes to state that the cold storage industry is itself in the process of adopting more modern handling methods in many plants, and that many others are contemplating similar steps.

WAREHOUSING FROZEN FOODS

The Committee is aware of and sympathetic to the warehousing needs of the frozen food industry, as well as others, and is anxious to cooperate in development of improvements that are needed. It was felt that any project along this line might better be initiated by the commodity advisory committees.

FROZEN FOOD LOCKER PLANTS

The Committee considered the problem of dealing with locker plants in its report, and concluded that insofar as the locker plant is a cold storage warehouse for food, all of the scientific data which might be developed under the researches recommended by the Committee in Part I hereof, should be applied generally to the locker plant industry and will be available to that industry for its use.

As to problems involving physical, operational and economic factors, the Committee concluded that it was not competent to make recommendations without appropriate prior reference of such problems to qualified representatives of the locker plant industry.

ADEQUACY OF WAREHOUSES IN VARIOUS LOCALITIES THROUGHOUT THE UNITED STATES

The Committee considered that the industry is fully cognizant of the fact that there occur periodic, isolated shortages of cold storage space in the United States, but concluded that such shortages are subject to relief and correction by calling on industry representatives

in the general localities affected, and by discussing such situations with appropriate state or other local officials.

COOLER AND FREEZER FACILITIES AS RELATED TO THE EXPORT MARKET FOR UNITED STATES FRUITS AND PRODUCTS

Following general discussion of cooler and freezer facilities which might be required in export programs, the Committee concluded that in general shipments abroad would consist of stable commodities more easily preserved, rather than frozen foods or other perishables requiring foreign refrigerated storage and transportation.

It was also the consensus of the Committee that the cold storage industry of the United States has and does maintain an "open door" policy with respect to furnishing representatives from abroad with any and all information pertaining to cold storage design and operation, with a view toward promoting in coming years the construction of sufficient facilities abroad which might eventually lead to expansion of trade in refrigerated commodities.

Paul B. Christensen, Vice President and Chief Engineer, Merchants Refrigerating Co., New York, N. Y., is Chairman of the Cold Storage Advisory Committee and H. C. Diehl, Director, Refrigeration Research Foundation, Berkeley, Cal., is vice chairman. Other committee members are as follows: Vallee O. Appel, President, Fulton Market Cold Storage Co., Chicago, Ill., A. R. Current, The City Ice and Fuel Co., Chicago, Ill., Arnold T. Hampson, Treasurer, Merchants Cold Storage & Warehouse Co., Providence, R. I., Walter F. Henningsen, Sr., President, Northwestern Ice and Cold Storage Co., Portland, Ore., James C. Irwin, Vice President, United States Cold Storage Co., Kansas City, Mo., C. A. Martin, Noel and Co., Inc., Nashville, Tenn., Harlan J. Nissen, Terminal Refrigerating Co., Los Angeles, Cal., S. C. Rogers, G. H. Hammond Co., Chicago, Ill., Horace W. Wilson, President, Quaker City Cold Storage Co., Philadelphia, Pa.

UNIT LOADS—(Continued from Page 44)

point of manufacture, in transit, and at the receiving point.

These devices ranged all the way from simple clamps up to elaborate hydraulic pressure-controlled units, and in price from \$350 to \$1200. The fact that these devices have been developed and that they operate successfully, indicates that the trend away from pallets for unit load handling is well defined. We may look for developments in this field and for the perfection of the present devices.

By using a clamping accessory, the procuring, handling, storing, cost of shipping and need of returning pallets for credit are obviously done away with. In addition to unpalletized loads, various types of container can be handled such as drums, bales, citrus fruit cases, odd size crates, etc.

There is no doubt that the unit load shipment will continue. Its value has been proved from the standpoint of economical handling; the reduction of damage; the elimination, to a considerable degree, of pilferage; and because it affords a simpler method of warehousing and inventory taking.

We are now coming into a competitive situation. The standard or hardwood pallet manufacturers must fight to retain their present position in the field; the expendable pallet manufacturers must strive to introduce their product into general use; and other equipment manufacturers will seek to introduce those accessories which eliminate the need of both the heavy duty and the expendable pallet.

It will be interesting to see how the major equipment manufacturers fit into this development, because they sell the equipment, and in the past they have cooperated with the pallet manufacturers in the sale of pallets. In fact some of them are pallet manufacturers themselves.

This fierce competition will continue for some time, until experience proves which type of handling practice is most efficient and most economical, or until all types find their rightful place in our production and distribution pic-

ture, providing there is room for them all each in his specialized field.

In production operations, it is logical to assume that the use of pallets will be continued, although accessories may be used in this type of operation as well. Now is the time when pallet manufacturers should concentrate on developing the proper pallets for production operations, and make a concentrated effort to have the common carriers, the Interstate Commerce Commission, the Department of Commerce, or some other government agency work out a method whereby the cost of handling pallets, both new and used, alone as well as under the load, could be reduced, thereby making it more economical to use pallets on intra-plant, intra-state and interstate shipments.

Pallet manufacturers will have to work diligently to sell the need of using pallets. They must make them better and develop new ideas. Expendable pallet manufacturers and pallet-less accessories makers must also introduce new products and improve present ones to get their share of the market. The resultant competition should prove healthful and a boon to the materials handling industry, and through it, to all production and distribution, bringing better and cheaper products.

SKF Studies "Metal Cancer"

Paralleling medical science's campaign to solve the stubborn cancer problem, metallurgists of SKF Industries, Inc., are now concentrating on a drive to eradicate a type of "industrial cancer" that is currently costing U. S. industry unnumbered millions of dollars a year. A team of industrial scientists headed by H. O. Walp, SKF metallurgist, is studying the unusual reactions in the crystals of steel which become "tired" due to stress "irritations," and cause objects like automobile axles, ball and roller bearings and other machine parts to fail.

In their efforts to track down the cause of this "fatigue phenomenon," Walp and his associates are currently concentrating on the extremely hard steel used in the manufacture of high-precision bearings for all types of machinery. Instead of white rats and monkeys, they use a battery of 27 testing machines on which they whirl dozens of anti-friction bearings at varying speeds for test runs which sometimes extend day and night over a period of several years.

Getting down to Cases

By LEO T. PARKER
Legal Consultant

TRANSPORTATION

Things You Can Do

YOU CAN limit your liability for damage to merchandise if the shipper agrees to limited liability in consideration of a lower freight rate. Otherwise you are fully liable. See *Sooner Freight Lines v. Lester*, 185 Pac. (2d) 469, Okla. Here the higher court refused to limit the carrier's liability for damage to goods transported intrastate where the testimony showed that the shipper had not read the bill of lading limiting the liability, in consideration of a lower freight rate.

YOU CAN avoid jurisdiction of the Public Service Commission or other Commission not specifically mentioned in a state law or constitutional clause intended to regulate transportation. For example, in *Central Airlines, Inc.*, 185 Pac. (2d) 919, Okla., a state constitution was amended which gave the Corporation Commission jurisdiction to regulate "transportation companies." The higher court held that the Corporation Commission has no jurisdiction over air transportation or those engaged therein. Also, see *Spartan Airlines, Inc.*, 185 Pac. (2d) 925, Okla. This court held that a Commission has executive, judicial, and legislative powers limited to those expressly or implicitly conferred by the constitution and statutes.

Things You Can't Do

YOU CAN'T have your carrier's permit extended or enlarged unless you prove positively that this is necessary for convenience of the public. For illustration, in *Leonard Bros. Transfer & Storage Co. v. Douglass*, 32 So. (2d) 156, Fla., it was shown that the Public Service Commission enlarged a certificate of a motor carrier to haul heavy machinery and building material. The higher court reversed the Commission's ruling because the evidence did not prove that the extension was needed for the public convenience and necessity.

YOU CAN'T avoid paying an employee compensation for an injury sustained during leisure periods. In *Penn Stevedoring Corp. v. Cardillo*, 72 Fed. Supp. 991, the higher court held that an employee may move about on his employer's premises within reason in intervals of leisure during working hours, and if he does not go beyond the "course of the employment," the injury resulting is compensable.

WAREHOUSING

Things You Can Do

YOU CAN rely upon the validity of a state law which prohibits the state from taxing merchandise stored in warehouses. For illustration, in *Dearborn Chemical Co. v. Taxation and Finance*, 53 Atl. (2d) 639, N. J., the

testimony showed that a corporation of the State of Illinois maintains offices in New York. It maintains no office in New Jersey. The corporation leased space in a warehouse in New Jersey in which it stored chemical products in drums, barrels and carboys. The corporation had its own employees in the warehouse to make shipments, on orders received from the New York office. In view of a New Jersey state law which exempts from taxation personal property in storage in a public warehouse, the higher court held that the state could not compel the corporation to pay state tax on chemicals stored in the warehouse, although the corporation's own employees made shipments from the warehouse.

For comparison, see *Anglo-Chilean Nitrate Sales Corp. v. Alabama*, 288 U. S. 218. Here a shipment of 100-lb. bags of nitrate were kept intact until delivered to purchasers. The higher court held that the state could not tax the packages of nitrate.

Things You Can't Do

YOU CAN'T avoid payment of privilege tax for each county although goods are distributed from only one warehouse. For example, in *Cockrell v. Raspberry*, 32 So. (2d) 119, Miss., a state law was litigated which imposed upon transient dealers in merchandise a privilege tax of \$50 for each county in which business was done. Another state law stated that the tax was only \$10 if the sales were made from a warehouse. A dealer distributed merchandise from a warehouse to two counties. The higher court held that the dealer must pay \$10 tax for each county, or total \$20 tax.

YOU CAN'T avoid liability on a note unless you prove fraud. For example, in *Elkhorn Production Credit Assn. v. Johnson*, 29 N. W. (2d) 69, Wis., it was shown that one Johnson signed a note as an accommodation maker for his son with full knowledge of the payee and holder of the note. In subsequent suit the higher court held Johnson was not discharged from liability although the payee against Johnson's objections released the lien of a mortgage as security for the note given by the son. Also, see *Straus Paying Agency v. Terminal Warehouse Co.*, 220 Wis. 85, 90.

PACKAGING

Things You Can Do

YOU CAN register and use your trademark without infringement liability if the public will not be deceived. In *West Disinfecting Co. v. Lan-O-Sheen Co.*, 163 Fed. (2d) 566, it was shown that a manufacturer registered a trademark "Lustersheen" for a product used to clean silks, woolsens, linens, and fine fabrics. Another company applied to the United States Patent Office to

register for use on the same goods the mark "Lan-O-Sheen." The Federal Court allowed registration although the owner of the first registered mark argued that the public would be confused. The court said: "We are of opinion that the term 'Lan-o' differs in sound, meaning, and appearance from the prefix 'Luster' and that considering the marks as a whole, the concurrent use of the two marks on the goods of the parties would not be likely to deceive purchasers."

Things You Can't Do

YOU CAN'T rebottle products and sell same at a price lower than a price advertised or contracted with retail druggists, or other retail firms. For illustration, in *Guerlain Co. v. F. W. Woolworth Co.*, 74 N. E. (2d) 217, N. Y., the testimony showed facts as follows: The Guerlain Co. manufactures and distributes high-grade perfumes and cosmetics under the trade-mark "Shalimar." This company made contracts with retail druggists which set a minimum resale price of \$1.60 for "Shalimar" perfume in quantities of "one dram or less." A distributor purchased "Shalimar" in the retail market and rebottled it in small glass ampules holding 1/70 of a dram. The ampules bear a label which explains that the perfume is manufactured by Guerlain, and sells retail at 10c. The higher court held that it is unlawful to sell Shalimar perfume in 10c. packages because the Supreme Court of the United States has held that the purpose of the Fair Trade Act is to protect the good will of manufacturers and producers.

FINANCE AND INSURANCE

Things You Can Do

YOU CAN make a void verbal contract valid by a written memorandum. In *Teel v. Harlan*, 185 Pac. (2d) 695, Okla., a verbal contract was void because it was required by the Statute of Frauds to be in writing. This court held that the Statute of Frauds does not prohibit making of verbal contracts, but only makes such contracts void. This court also held that a written memorandum may be made after making of the verbal contract, and at any time before suit is brought thereon, and that the written memorandum renders the void verbal contract valid and enforceable.

Things You Can't Do

YOU CAN'T avoid the Blue Sky Act if your stock is worthless, and you practiced fraud. However, the Blue Sky Act was written to prevent fraud in the sale of worthless securities, and not to regulate the business of a company or to raise revenue generally. See *State v. Consumers Assn.*, 183 Pac. (2d) 423, Kan., where a state law exempts from the Blue Sky Act Cor-

porations organized exclusively for "religious, educational, benevolent, fraternal, charitable or reformatory purposes." A cooperative association was organized to deal in, handle and distribute various products, and to purchase, lease, build, construct, maintain and operate warehouses. The higher court held that the association is not exempt from the Blue Sky Act since the testimony showed that it earned a profit. This court held that the commission could not refuse to register the stock although some of the stock had been sold to the public

before an application was made to register the stock with the commission.

You CAN'T allow your employees to file a single suit under the Fair Labor Standards Act. In *Rockwood v. Crown Co.*, 178 S. W. (2d) 440, an employee sued his employer to recover \$1,000 for unpaid minimum wages, \$1,000 as liquidated damages, and \$1,000 as a reasonable attorney's fee under the Fair Labor Standards Act for himself and each of 105 other employees. The higher court refused to hold in favor of the employee and said that each employee must file a separate suit.

CHAINS—(Continued from Page 68)

man, Milwaukee; H. M. Overmyer, Toledo; Leo Pistorino, Boston; Philip Milstein, Denver; H. W. Verrall, Chicago.

Distribution Service, Inc. Newly elected officers of Distribution Service, Inc., which held its annual meeting in Atlantic City during the course of the AWA convention are as follows: President, J. Leo Cooke; vice president, A. M. Crighton; treasurer, S. A. Smith; secretary, J. C. Temple. Directors are W. F. Long, St. Louis; J. L. Cooke, Jersey City; A. M. Crighton, New Orleans; L. T. Howell, Philadelphia; M. C. Taylor, Seattle; A. H. Webster, Detroit; W. B. Carlson, St. Paul.

Interlake Terminals. The position of warehousing in the national distribution picture and methods for improving efficiency were among the topics discussed at the 57th annual meeting of Interlake Terminals, Inc., held in Atlantic City, just prior to the meeting of the American Warehousemen's Assn.

All officers were re-elected and the board of directors remains unchanged. Officers for another term are: Wm. G. Tanzer, president; Ted Hansen, vice president; E. W. Leicht, secretary and treasurer. Geo. G. Roddy, vice president and general manager, heads the New York office.

The meeting was well attended.

NFWA—(Continued from Page 70)

The need for cooperation between furniture warehousemen and local fire departments was emphasized in a presentation by Capt. Edward Newell and Lt. Harry Wollff of the Chicago Fire Department which dramatized present day laboratory techniques in fire control. The demonstration which was arranged by Mayor Martin Kennelly of Chicago, formerly president of the Allied Van Lines, Inc., included comparisons of the combustibility of various materials.

Charles D. Morgan, treasurer, Morgan & Brother Fireproof Storage Warehouses, Inc., New York, was elected president. He succeeds Herbert B. Holt, executive vice president, Bekins Van & Storage Co., Los Angeles, who has taken over the duties of a director of the association for a three-year term.

Other officers include:

George D. Lentz, president, Lentz Transfer & Storage Co. Inc., Winston-Salem, N. C., re-elected vice president and regional director of the southern division of the association.

John K. Gund, secretary, Knickerbocker Storage Co. Inc., Cleveland, elected vice president and regional director of the central division.

Austin H. Hathaway, vice president, Lyon Van & Storage Co., Los Angeles, elected vice president and regional director of the organization's western division.

E. L. Frost, president, Arlington Storage Warehouse, Arlington, Mass., elected vice president and regional director of the eastern division.

Joseph A. Hollander and J. D. Ullman were re-elected secretary and treasurer, respectively. Mr. Hollander is president of the Hol-

DISTRIBUTION BRIEFS

Carpet Institute, Inc. has formed a new standing Traffic Committee to deal with all problems relating to packaging and materials handling, as well as traffic problems. Henry G. Elwell of A. & M. Karagheusian, will serve as chairman of the new committee and John G. Schumann, of Alexander Smith & Sons Carpet Co., as secretary.

Freight Cargo Agency has announced that it has joined services and personnel with **Tynan Transport Service**, in an effort to extend services and facilities. The newly established firm will operate as Tynan Transport Service, Inc. George B. Kiely, president of Freight Cargo, will head field operations of the new organization, which will be staffed by the combined personnel of Freight Cargo and Tynan Transport.

International Harvester Co. has announced the formal opening of a new sales and service branch, Oakland, Cal. In addition to supplying a new and modern base of operations for the Oakland sales district, the new building provides headquarters for the company's western region sales and service executives. IHC also has announced the purchase of the Metropolitan Body Co. of Bridgeport, Conn., a firm supplying a special type of body for IHC light trucks for many years.

Standard Oil Co. of New Jersey has changed its name to the **Esso Standard Oil Co.** The change was made to give formal recognition to the close association which has developed in the public's mind over a period of years between the corporate name of the company and its Esso trademark.

Truck-Man, Inc., formerly a division of Yard-Man, Inc., Jackson, Mich., has incorporated as a separate and distinct unit to carry on the manufacturing of the Truck-Man, Model "D", a gasoline powered, hydraulic lift truck, and the Truck-Man Utility, gasoline powered platform truck. Yard-Man, Inc., continues as manufacturer of lawn mowers exclusively. Officers of Truck-Man, Inc., are T. B. Funk, president, W. S. Butterfield, secretary and treasurer, and Walter Mayer, general manager.

lander Storage & Moving Co., Inc., Chicago, and Mr. Ullman is secretary of the Federal Warehouse Co., Inc., Peoria.

In addition to Mr. Holt, the following also will serve three-year terms as directors: I. A. Faulk, president, Faulk-Collier Bonded Warehouses, Inc., Monroe, La., who was re-elected; James Vogel, secretary, John Vogel, Inc., Albany, N. Y.; Oliver Skellet, vice president and treasurer, Skellet Van & Storage Co., Minneapolis.

son, who is traffic manager of the Lone Star Cement Co., has been elected secretary-treasurer. Directors elected for three year terms include: **Verne W. Porter**, traffic manager of Indianapolis Wire Bound Box Co.; **K. G. Foster, Jr.**, general manager of Foster Freight Lines; and **Paul A. Day**, city freight agent for the New York Central Railroad. (Kline)

Massachusetts Warehousemen's Assn. has elected the following: President, **Millard Decatur**, Congress Stores, Inc., vice president, **Christopher J. Grimley**, Wiggins Terminals, Inc.; treasurer, **H. S. Wiggins**, Manufacturers Warehouse; secretary, **John F. O'Halloran**, Merchant's Warehouse Co.; Directors are **William H. Condon**, A. M. Somes Warehouse Co., **John W. Kennedy**, Wiggins Terminals, Inc., **Arthur K. Kellaway**, Warehouse 13, Inc., and **Edward W. Hathaway**, Commonwealth Ice and Cold Storage Co. **Walter R. Guild** will continue as managing director and **Lucius F. Foster** will be associate director.

Milwaukee Warehousemen's Assn. has elected the following officers: President, **Harold M. Willenson**, American Warehouse Co.; vice president, **Norbert J. Meyer**, Hansen Storage Co.; secretary-treasurer, **Philip G. Kuehn**, Wisconsin Cold Storage Co. New directors are **Anthony L. Fischer**, Atlas Storage Co., **Erle H. Ottman**, National Warehouse Corp., and **Willis Warren**, Terminal Storage Co.

New Jersey Industrial Traffic League has elected **Howard A. Sargent**, as president. He is traffic manager for George LaMonte and Son, Nutley, N. J. Mr. Sargent also has become a member of the Newark Traffic Commission recently. **D. W. Crane**, is the newly elected vice president and chairman of the executive committee. He is assistant traffic manager, Colgate-Palmolive-Peet Co., Jersey City, N. J. **Milton Goldstein**, traffic manager, Serutan Co., Jersey City, N. J. is now treasurer. The following were elected members of the executive committee: **F. T. Ridley**, traffic

manager, Calco Chemical Div., American Cyahamid Co., Bound Brook, N. J.; **F. P. Martino**, traffic manager Reilly Tar and Chemical Corp., Newark, N. J.; **Joseph Meade**, traffic manager, Gibraltier Corrugated Paper Co., North Bergen, N. J.; **George E. Martin** has been re-elected secretary of the League. He is assistant sales manager, Lehigh-Lackawanna Warehouse Organizations, Newark, N. J.

Ohio Warehousemen's Assn. elected, and in some cases re-elected, the following: **L. M. Ashenbrenner**, president; **A. R. Post**, vice president; **S. C. Fulton**, secretary-treasurer; **R. C. Greeley**, **A. R. Post**, **L. M. Ashenbrenner**, **W. Lee Cotter**, **Harry Foster**, **A. P. McNeal** and **F. H. Prussa**, directors; **F. H. Prussa**, chairman cold storage division; **Robert C. Greeley**, chairman, merchandise division.

Truck-Trailer Manufacturers Assn., Inc. has elected the following: President, **Harrison Rogers**, Rogers Bros. Corp.; western vice president, **John C. Bennett**, Utility Trailer Mfg. Co.; eastern vice president, **J. Cottrell Farrell**, Easton Car and Construction Co.; treasurer, **W. E. Grace**, Hobbs Manufacturing Co. Directors: **L. C. Allman**, Fruehauf Trailer Co., **Bert P. Bates**, Highway Trailer Co., **C. Hammond, Jr.**, The Steel Products Co., Inc., **J. L. Glick**, Truck Engineering Corp., **L. A. Myers, Jr.**, Black Diamond Trailer Co., Inc., **C. A. Persinger**, Wilson Trailer Co., Inc., **F. A. Schotters**, The Trailmobile Co., **R. C. Tway, Jr.**, Kentucky Manufacturing Co., **E. J. Ziegler**, Keystone Trailer & Equip.

Wirebound Box Manufacturers Assn. has elected **D. R. Simmons** as president. He is an official of the Elberta Crate & Box Co., Bainbridge, Ga., and Tallahassee, Fla., and of the Southern Crate and Veneer Co., Macon, Ga.

Worcester (Mass.) Chamber of Commerce has elected **Everett F. Merrill** as president. Mr. Merrill is president, Merrill & Usher Co., steel warehouse.

OBITUARY

Reed J. Bekins, 53, Burlingame, Cal., chairman of the board and one of the owners of the Bekins Van & Storage Co.; a director of the National Furniture Warehousemen's Assn. (Vitkauskas)

John W. Black, Sr., president of Dixie Drive It Yourself, Inc.; one of the originators and founders of National Truck Leasing System; president of the Chamber of Commerce of Birmingham.

Paul Cotton, 67, Palo Alto, retired vice president, Bethlehem Pacific Coast Steel Corp.; former resident of Seattle. (Haskell)

Clarence A. Palmer, 64, New Orleans, La., assistant treasurer, Lykes Bros. Steam-

ship Co., Inc.; treasurer of the Propeller Club, Port of New Orleans Sportsmen's League, director of the Guaranty Savings and Homestead Assn., and a member of numerous other organizations.

Charles R. Saul, 92, New York City, founder and former president of the Columbia Storage Warehouses. Mr. Saul founded Columbia Storage Warehouses in 1885 and was a founder and former president of the New York Warehousemen's Assn.

Samuel Wasserman, 59, Washington, D. C., vice president and controller, Manhattan Storage & Transfer Co., Inc. Mr. Wasserman was a member of the International Accountants' Society. (Vitkauskas)

Books & Catalogs

CLARK GAS AND ELECTRIC FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS, 40-p. catalog, illus., introduced at the 2nd National Materials Handling Exposition, presents Clark's full line of machines and special handling attachments. **MATERIAL HANDLING NEWS**, 24-p. magazine, illus., gives in tabloid form the history of Clark's product-by-product growth.

Both booklets obtainable from Clark Equipment Co., Tractor Div., Battle Creek, Mich.

A FACTUAL STUDY OF AIRFREIGHT, 16-p. booklet, lists advantages and profit possibilities of shipping by air. It covers costs, delivery speeds and miscellaneous information of interest to shippers; also case histories. **C. A. Stevens, Jr.**, Dir. Sales Promotion, American Airlines, 100 E. 42 St., New York City 17.

THE GENERAL BOX, 8-p. brochure, tells the story of the birth and growth of General Box Co. products. Free. General Box Co., 500 No. Dearborn St., Chicago 10.

HANDBOOK OF THE SOCIETY OF THE PLASTICS INDUSTRY, 451-p. book, illus., a source of standard information on plastics and the best practices of the plastics industry. \$7.50 (additional copies, \$4.50). Free to members. Society of the Plastics Industry, 295 Madison Ave., New York City 17.

MODERN MANAGEMENT PRACTICES AND PROBLEMS, 48-p. booklet, shows the progress in seven fields of business and industrial management: production, distribution, finance and economic planning, labor relations and personnel administration, office management and administration, insurance, packaging and merchandising; written by retiring vice presidents of the American Management Assn. \$1.00. Pamphlet No. 139, General Management Series. American Management Assn., 330 W. 42 St., New York City 18.

NEW MERCURY 7-11 CATALOG, 2nd edition, 52-p. catalog, illus., describes all Mercury equipment and features, including the newest additions to the company's materials handling line, with special attention given to the Mercury Fork Truck "Trackless Train" System of materials handling. The Mercury Mfg. Co., 4044 So. Halsted St., Chicago 9.

THE NICKEL PLATE ROAD, The History of a Great Railroad, by Taylor Hampton, illus. book, tells the story of the New York, Chicago and St. Louis Railway from its inception to the present time. \$3.75. The World Publishing Co., 2231 W. 110 St., Cleveland 2.

PALLET BUYERS AND ENGINEERS GUIDE, 24-p. booklet, illus., covers pallet definitions, who can palletize, how to choose the proper pallet, purchasing the pallet, types of pallets and their uses, etc. Pallet Sales Corp., 122 E. 42 St., New York 17.

tion, in relation to present-day standards that oral law of ancient times holds to codified, written law of the present. With the advent of mass production, mass consumption, and mass distribution, the unwritten, simple trade standards were replaced by modern standards. The development of the latter followed the path traced above for the Nifty Toy Co. standard. The first great surge of industrial development (The Industrial Revolution, as the more sanguinary economists will have it) after the Civil War brought with it a similar surge of trade associations and their standards. Between 1890 and 1910 many of the present standards bodies were developed. At the turn of the century, ASTM standards began their important role in industry. SAE standards were being developed and used in the automobile industry as early as 1910. Standards for fire and accident prevention were promulgated and used. After World War I there were so many standards-sponsoring groups that there was a need for a unifying body to coordinate their diverse activities. ASA was organized in 1918 "by five national engineering societies to serve as a clearing house for coordinating their standardization activities." Three years later a similar step was taken by the federal government when all non-military standards activities were centralized in the Federal Specifications Board which was placed under the direction of the Director of the Treasury Department's Procurement Division. During this period safety codes, fire prevention regulations and similar standards were embodied in municipal and state legal systems.

The greatest of all industrial surges brought about by the second World War has had a similarly beneficial effect on the development and use of standards. It is logical to assume that the accelerated growth of standards has been accompanied by a considerable amount of duplication and waste as well as needless complex-

ity. In many areas there are undoubtedly far too many conflicting standards: in other areas there are practically no standards in existence. Many widely used standards are poorly planned and limited in their usefulness. In some instances, standards are used to retard progress and to freeze the status quo, at other times, standards are too advanced to be of practical use. However, conceding the many faults, it can be stated with certainty that the immediate future will see a wider utilization of the benefits from standardization, will see more and better standards. Cooperation on standards is becoming the rule rather than the exception. In 1946 an Industrial Advisory Council to the Federal Specifications Board was created in order that cooperation between governmental and non-governmental standards activities could be fostered. SAE, the most important industrial consumer association, has been working in close cooperation with AISI, the largest industrial producer association. The result of this working together has been the excellent system of specifications for steel and iron products. More than 75 trade associations, nine government bureaus, and thousands of companies are represented in the ASA and work together in developing national standards. International cooperation, typified by U.N. in the field of statesmanship and UNESCO in the fields of science and culture, is to be found for standards in the newly organized International Organization for Standardization on which are represented almost 25 nations.

BENEFITS FROM STANDARDS—An appropriate question at this point is: How can the individual plant benefit from all these standards? The question is pertinent because full benefits from standards are not being realized in many plants. In far too many instances companies fail to appreciate that at a negligible cost they can utilize for their own benefit the knowledge and "know how" codified in thousands of standards. For almost every phase of plant operation

there are literally hundreds of useful standards.

Except for the limited few that are embodied in various state, municipal, and national laws, the use of standards is purely voluntary. No compulsion, legal or otherwise, is exercised by non-governmental standards bodies. In most instances no attempt is made to supervise the use or application of standards. This voluntary feature operates to the advantage of the user because unless the standard is basically sound, it will not be used. The market place for ideas operates with equal force for standards. The sound idea is supported in the area of free discussion just as the good standard is supported in the field of free enterprise.

Given this freedom of choice, the potential user has before him a wide selection of standards from which he may pick and choose. The potential user is not restricted by business or professional limitations. A radio manufacturer may use SAE standards, an automobile factory may use API standards, and an oil company may use AISI standards.

Copies of almost all published standards may be procured from sponsoring groups free of charge or for nominal fees. The published standards may be used in their entirety or they may be modified to suit the unique requirements of the individual user. They may be used as guides to plant production, product design, plant safety, purchasing, or plant engineering. They may be modified or adopted in whole as company standards to be used in day-to-day plant affairs.

Standards are not restrictive forces, nor are they barriers to progress. The fact that a product has been standardized does not mean that further changes or improvements are impossible.

commission has no jurisdiction."

"Now as to the issue of liability," he continued, "under the circumstances where a shipper loads a car on his own siding the bill of lading bears the notation 'shipper's load and count.' Immediately the burden of proof as to proper loading rests on the shipper. Unless he can prove negligence on the part of the carrier, the latter would not be held accountable."

"But," protested Fleming, "the local agent of the railroad happened to be at our outbound platform. He saw how we loaded the car. Doesn't that have any bearing?"

"Not an iota," McCormack asserted, "otherwise the bill of lading conditions would be affected. A carrier's agent does not have any right to make changes in the terms."

"Why not?" Fleming demanded.

"Because the terms and conditions make up a contract," McCormack retorted. "Furthermore, in substance, the bill of lading has been approved by the ICC."

"On the other hand," Fleming countered, "wouldn't it help shippers if railroad freight agents could vary the terms and conditions in a bill of lading?"

"Quite the contrary," McCormack insisted. "If the railroad's agents were permitted that kind of license, it could lead to all sorts of discrimination."

"Jack, that point is clear to me," Miller granted. "Also I'm convinced that loss and damage claims are not within the sphere of authority of the commission. However, as to the claim rejected by the railroad to which Tom referred, what is to prevent us from filing suit in the courts in an attempt to recover our loss?"

"Not a thing," chuckled McCormack, "but there would be obstacles to winning. From a legal viewpoint, it would be a rough

and rugged road to travel with the probability of losing the case."

"How so?" Fleming challenged.

"I'll not go into all the ramifications," McCormack explained. "One or two examples will suffice."

Jack then referred to 46 Fed. (2d) 452, in which it was held that, on a carload shipment, a carrier is not liable for damage in transit which is caused by faulty loading by the shipper. He also mentioned 178 N.E. 26, in which it was declared that the burden is on the shipper to prove shipment was in good condition when tendered to the carrier. He quoted the following from the court's charge to the jury. "I charge you that before plaintiff (shipper) can recover, one of the things which plaintiff must prove by a preponderance of the evidence is that the goods involved in this action were delivered by the shipper . . . to the initial carrier . . . in good condition."

"Did the shipper win that suit?" Miller asked.

"No," said McCormack, "that decision also was in favor of the railroad. As further evidence of how the courts have ruled in cases involving shippers' loading of freight cars, note this from 33 S.W. (2d) 874 in which the court said: 'On the bill of lading were the initials, S.L.C., meaning in railroad parlance that the shipper loads and counts the contents of the car; and on the occasion of this shipment the car was loaded and sealed by [the shipper], and the railroad company never knew of its contents until after it was opened by [the consignee] . . . It was found . . . that the car reached [destination] in good condition and with all the contents that had been placed therein by [the shipper]; hence the railroad company was guilty of no negligence in handling the shipment, and the judgment discharging the railroad company from liability

as to all parties was correct.'"

"Perhaps we can prevent, or at least reduce, damage to our future shipments," McCormack remarked. "Let's check into our methods of loading freight cars, and look into our practices in preparing less than carload consignments. The investigations should embrace our procedures in shipping not only by railroad, but by motor truck as well."

"Yes," Fleming admitted, "those things ought to be done by every shipper. As for our company, you prepare the details for a study. After that we'll work on it. I'm sure we can bring about improvement."

"But," Miller interjected, "it's obvious that loss or damage to shipments in general can never be entirely eliminated. Too many entangling factors. Hence, it will be impossible to weed out all claims. I admit, though, that constant attention to the subject is advisable."

"You are quite right," McCormack acknowledged. "Actually, the question pertaining to claims is one of the most important problems in the field of transportation. The shippers and the carriers have a mutual interest."

"I imagine the yearly monetary loss to the carriers, on account of loss and damage to shipments, amounts to a staggering sum," said Fleming.

"The annual total of claims is now running well over a hundred million dollars," McCormack declared.

"Has anything been done by the carriers, and also by the shippers, to try to reduce loss and damage to shipments?" Miller inquired.

"Over the years a great deal has been done," McCormack said. "Associations of the carriers are constantly endeavoring to devise ways by which loss and damage can be reduced. At the same time various types of shippers' organizations have been studying the question. And the carrier and shipper groups are cooperating. Despite the efforts to date much remains to be accomplished. It's a never-ending task."

ery, electric power, petroleum, iron and steel including steel making equipment, inland transport, maritime transport, timber, and manpower.

Under food and agriculture it appears we are expected to supply both funds and materials, the latter being listed as grains, rice, fats and oils, oilcake and meal, sugar, meat, livestock, fish, cheese, milk, processed milk, eggs, fresh fruits, dried fruits and nuts, wine, tea, cocoa, coffee, tobacco, potatoes, pulses, fresh vegetables, cotton, wool, and naval stores. Europe normally consumes approximately half the commercial fertilizer used in the whole world. It will need double the quantity it has normally used. In order to make swift work of the application of fertilizer and water on the wrecked acreage of Europe it has been suggested by Edward F. Beaupre, secretary to Nevada's Senator George W. Malone, that planes be used to spray the fertilizer on the soil, and that overhead pipes be installed for irrigation. He also has impressed the army people with his proposal that planes be sent aloft to bombard rain and snow clouds to bring moisture precipitation over given areas. Something of the kind may actually be tried on a very large scale.

Tractors seem to be one of the groups of agricultural machinery items most needed in Europe. Britain is reported to have half of all the tractors in Western Europe. There is a great demand for parts to repair old tractors. There is much need for threshing machines, and for hand tools. The United States is expected to furnish upwards of 550 million dollars in farm machinery and hand tools. The production of farm machinery in the United States in 1946 totalled 886 million dollars. New plants have come into production in 1947.

Under the Marshall Plan the United States is expected to ship 41 million tons of coal to Europe

during the 4½ years of operation of the program. This is about 6 percent of the anticipated coal production in the United States. We are expected to provide coal mining machinery and supplies to the value of 220 million dollars. These will go to Belgium, France, Netherlands, the Saar, to Bizone Germany, and to the United Kingdom. The machinery will include pneumatic and electric drills, cutters, loaders, shuttle cars, conveyors, locomotives, hoisting and winding machinery, pumps and compressors, boilers, turbo generators, cranes, transport and loading equipment, power shovels and draglines, wheeled self-loading scrapers, crawler tractors, steel plates, pipes, wire ropes, shaft-linings, spikes and rails, cables, rubber belting and hoses. Conveyor belting is expected to be difficult to supply without jeopardizing our own needs.

The European electric power program under the Marshall Plan is chiefly a request for funds so far as its application to the United States is concerned. Two major undertakings require 500 million dollars of American funds. The various national power developments in Europe are to be augmented by an international project which involves nine huge power stations in several countries, located regardless of borders. We are expected to supply heavy generating equipment to the value of 200 million dollars. They also ask for high-voltage insulators, machine tools, construction equipment, cable ways, boiler and condenser tubes, heavy forgings, steel and iron castings, and accessories. The report on the need in Europe of petroleum is being kept under wraps.

The steel and iron program calls for 500 million dollars iron and steel production equipment, and two million metric tons of crude and semi-finished steel annually for 4½ years. Finished steel will be sent over at the rate of 1.1 million tons per year. Another

estimate fixes the total drain of steel on the United States at four million tons ingot equivalent per year, or 18 million tons. There is demand for sheets, strip, tinplate and pipe and tubes, which are in short supply in the domestic market. Apparently the Europeans will get a generous share of the scarce items. The State Department people recommend that they be denied scrap, since it is very scarce here, and there is much scrap scattered around Europe.

We are expected to ship European-sized freight cars across the Atlantic at the rate of 40 thousand per year by 1949. These have a cost value of \$3,500 each. It is considered doubtful that we will be able to supply any railroad passenger cars for ERP. A large number of trucks will be shipped, as well as waterway and port equipment. The schedule for steel for rails and ties totals 6.8 million tons.

The President particularly has urged upon the Europeans greater use of the Rhine and other waterways to speed up transport. This means we will ship over river and port equipment. The discussion of maritime transport facilities reveals that the Europeans are doing exceedingly well in building ships, but that they are greedy to get more from us. They want cargo ships, tankers, and passenger ships. The United States does not appear to be inclined to supply ships without considerable argument.

The Marshall Plan, as conceived by the Europeans, should provide them with 408 million dollars worth of timber, and 57.5 million dollars worth of timber equipment. They want approximately eight million cu. meters of lumber. The report suggests there is a vast supply of timber in Russia. The United Kingdom needs much timber, as does Western Germany. Belgium, Netherlands, Ireland and Denmark want soft wood. France wants timber to restore railways, bridges, telegraph lines, mines, homes, and industrial plants. Italy needs timber for the reconstruction of railways, and to rebuild structures.

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This special advertising section of public warehousing has been consolidated for ready reference and maximum utility. It includes merchandise, refrigerated, household goods and field warehouses. For shippers' convenience, states, cities and firms have been arranged alphabetically.

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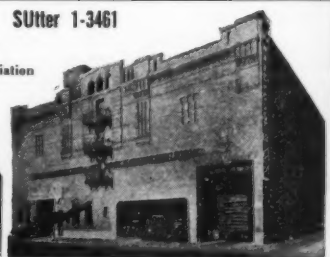
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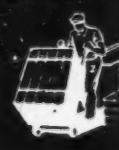
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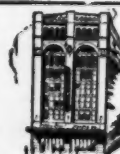
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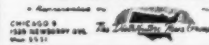
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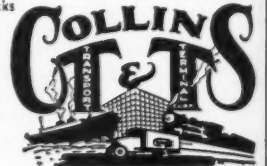
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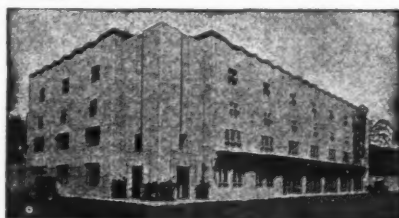
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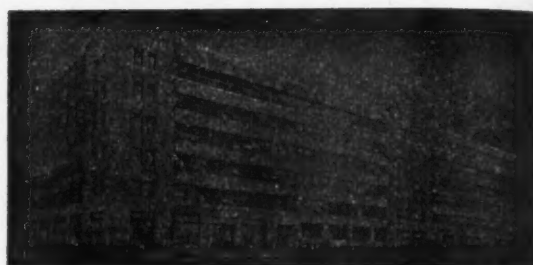
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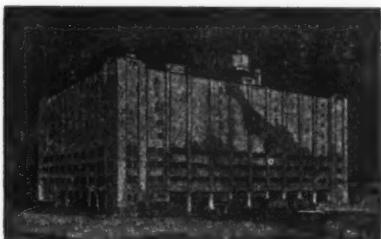
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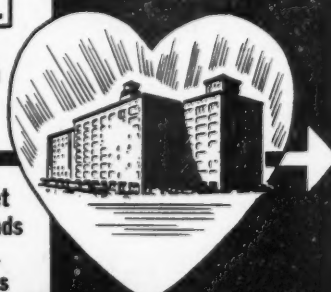
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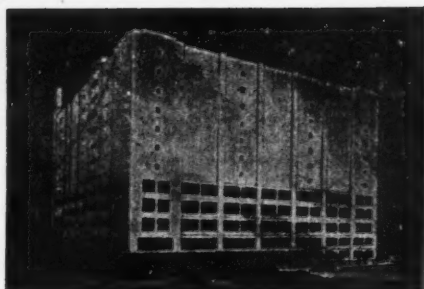
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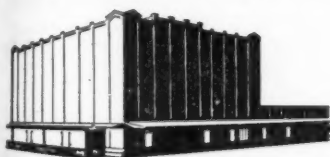
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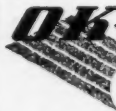
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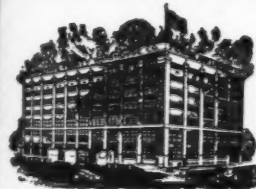
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Complete Storage and Distribution Service
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MERCHANDISE AND COLD STORAGE

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Pool Car Distribution Office Facilities
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Over 1,000,000 cubic feet reinforced Concrete Sprinklered Space
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72,000 sq. ft. space. Reinforced concrete
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Household • Automobile Storage • Merchandise

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MODERN SPRINKLER EQUIPPED WAREHOUSE
50,000 SQUARE FEET PRIVATE RAIL SIDING
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AGENTS AERO MAYFLOWER TRANSIT COMPANY
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HOUSEHOLD GOODS MOVED, PACKED, SHIPPED
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LARGE FIREPROOF WAREHOUSE
OPEN YARD STORAGE AVAILABLE
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20¢ PER \$100
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Capacity 500 Cars

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Established 1919

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"System Service Satisfies"

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Telephone, Office and Stenographic Service

Specialize in serving food and related industries; pool car distribution; 44 trucks and tractors with semi-trailers. New 19,000 ft. modern warehouse, equipped with fork-lift tractors.

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**A Complete Merchandise Warehouse Service
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TACOMA'S Merchandise Warehouse and
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Represented by American Chain of Warehouses

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Long Distance Moving Coast to Coast Service
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Waterfront Facilities
Stevedore Services

Complete local and over-the-road truck services with 70 units of all types of equipment, including low-bed trailers, wheelers and cranes.
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40 Car Truck Capacity
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Private Sidings on C&NW,
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Reciprocal Switching all
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Inquiries invited

Next month in DISTRIBUTION AGE, E. P. Troeger, Process Engineer, Douglas Aircraft Corp., Analyzes an approach to effective packing.

Space Lottery in 1949 Handling Show

ANNOUNCEMENTS and floor plans for the Third National Materials Handling Exposition, to be held in 1949, are now in the process of being mailed to exhibitors. According to the exposition management, a new system of space assignment, made necessary by the demand and scramble for booths, will be used this year, one which has proved satisfactory to other expositions.

Exhibitors will indicate several choices of locations and mail their choices in before April 1. On April 6, at the Commodore Hotel, New York, a lottery procedure will be used to assign space. Company names will be placed in a glass bowl and drawn, and first choice space assigned insofar as is possible. Other choices will be assigned where first choices are already gone. Company representatives may be on the spot to request other space if all their firm's choices are gone, otherwise, the exposition management will assign space as near choices as possible. Any firm may, of course, reject such assignments.

The drawing will be made in three stages: first, companies who exhibited in both the first and second expositions and who require 3,000 sq. ft. or more; second, companies who exhibited in both expositions and who require less than 3,000 sq. ft.; third, companies who exhibited in only one of the previous expositions.

Coming Events

- Mar. 28-31—Annual Conference, West Coast Section of The Society of The Plastics Industry, Santa Barbara, Cal.
- Apr. 5-8—16th Annual Convention, Mayflower Warehousemen's Assn., Traymore Hotel, Atlantic City, N. J.
- Apr. 26-29—17th Annual Packaging Exposition, The American Management Assn., Public Auditorium, Cleveland.
- May 6-7—Second Highway Transportation Congress of the National Highway Users Conference, Mayflower Hotel, Washington, D. C.
- May 20-21—Annual Meeting, The Society of The Plastics Industry, Atlantic City, N. J.
- June 14-17—Annual Conference, Canadian Warehousemen's Assn., Chateau Frontenac, Quebec City.
- June 26-Sep. 11—International Industrial Exposition, Atlantic City, N. J.
- July 1—New Orleans' International Trade Mart.
- Sep. 27-Oct. 1—Third National Plastics Exposition, The Society of The Plastics Industry, Inc., not open to general public, Grand Central Palace, New York City.

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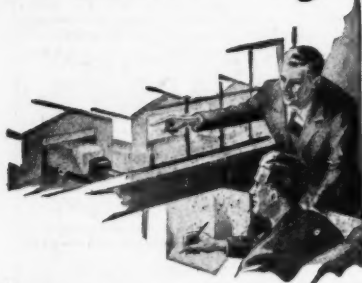
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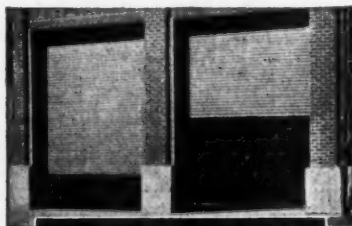


● Plant efficiency often bogs down at doorways without letting you know it. Costs pile up while vehicles wait for doors to be opened. Time and labor is lost when busy employees open or close doors. Heating and air-conditioning costs soar when doors aren't closed promptly.

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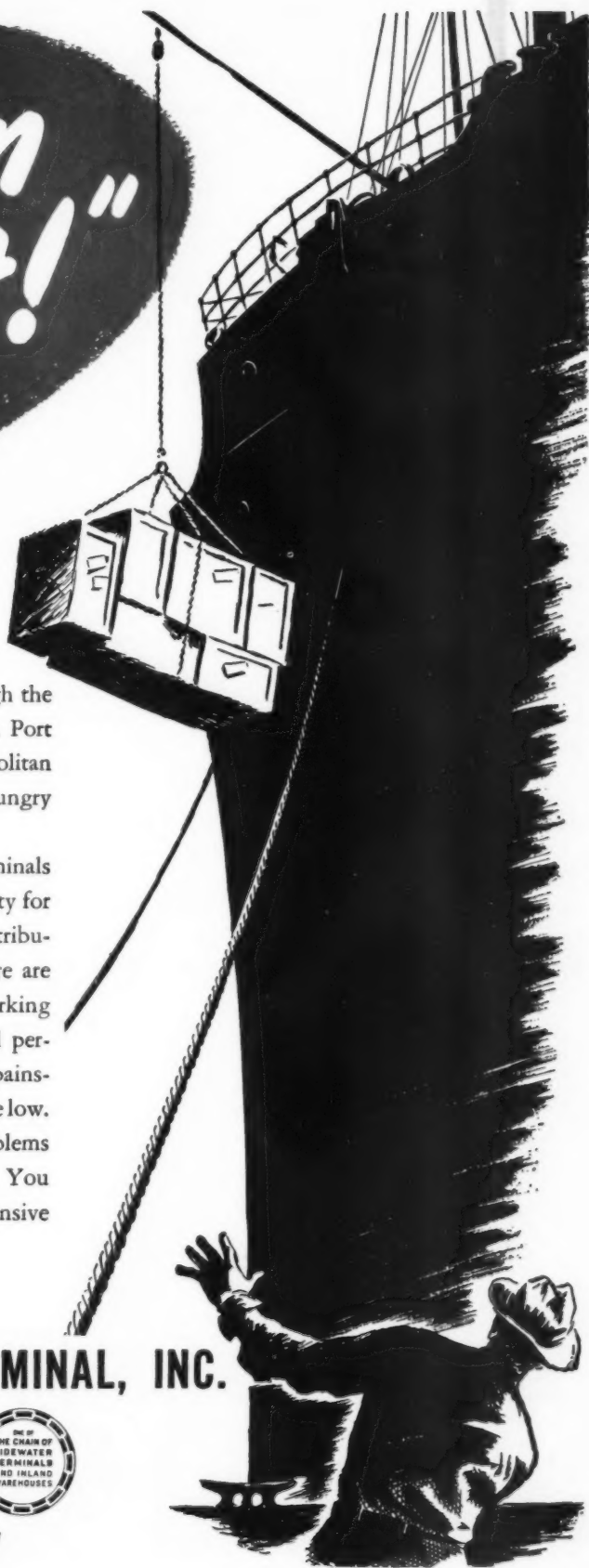
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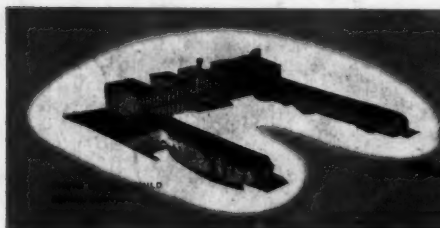
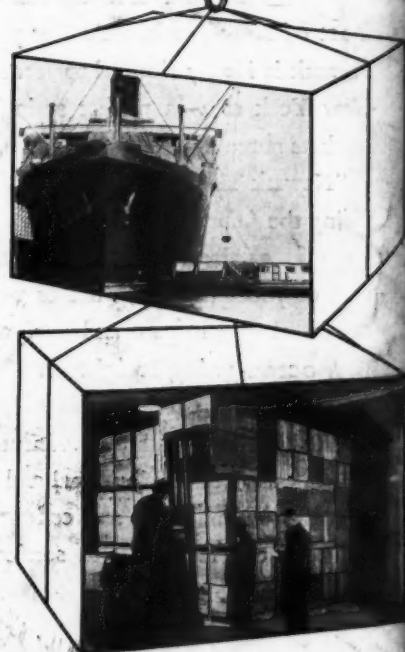
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